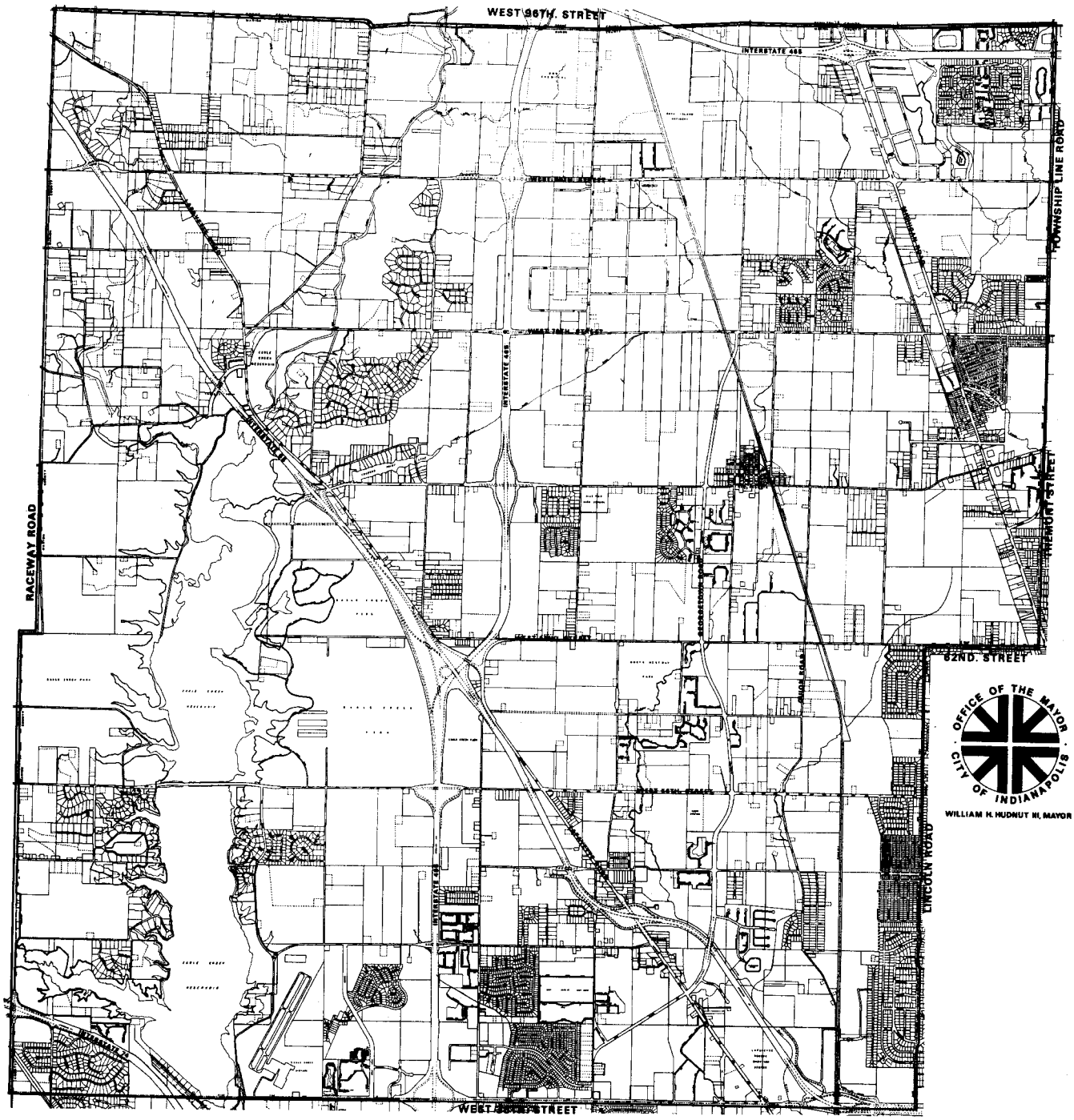
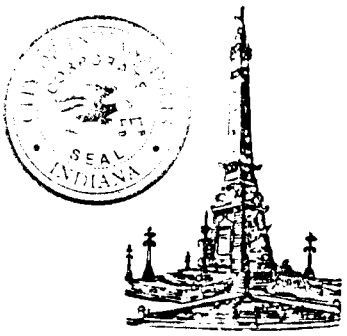


PIKE TOWNSHIP COMPREHENSIVE PLANNING STUDY DATA BOOK



CITY OF INDIANAPOLIS

WILLIAM H. HUDNUT, III
MAYOR

STUART RELLER
ADMINISTRATOR

DEPARTMENT OF METROPOLITAN DEVELOPMENT
DIVISION OF PLANNING
2021 CITY-COUNTY BUILDING
INDIANAPOLIS, INDIANA 46204
(317) 236-5151

October 20, 1987

Dear Pike Township Citizens,

This Pike Township Data Book represents a collection of information relative to the suburban growth of the Township. The document provides background materials that will be useful in the preparation of the Pike Township Comprehensive Planning Study.

The Pike Township Comprehensive Planning Study will provide a public forum for a discussion of the opportunities and the issues in this fast developing area. The township realized a 280% increase in population from 1970 to 1980. Approximately one half of the land area is currently developed, and the remainder will present important development decisions over the next 20 years. The decisions that are being made now will impact the quality of life for current and future Pike Township residents.

During this study there will be an opportunity for all Pike Township citizens to participate in the planning process. The following materials provide a common base of knowledge to begin these important discussions. Additional information regarding the contents of this Data Book or information regarding the participation in the Pike Township Comprehensive Planning Study can be obtained from the Division of Planning, Department of Metropolitan Development, City of Indianapolis.
Please contact Mike Graham, Pike Township Planning Study Coordinator. Mike can be reached at 236-5147.

Sincerely,

Stuart Reller

PIKE TOWNSHIP
COMPREHENSIVE PLANNING STUDY
DATA BOOK

-A collection of information
to begin the Pike Township
Comprehensive Planning Study

City of Indianapolis - Marion County
William H. Hudnut, III, Mayor

Department of Metropolitan Development
M. D. Higbee, Director

Division of Planning
Stuart Reller, Administrator

October 1987

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CHAPTER 1

PIKE TOWNSHIP
HISTORICAL PERSPECTIVE

At the time that Indiana achieved statehood in 1816, only the southern one-third of the state had been settled to any degree. The future site of Pike Township remained pristine wilderness disturbed only infrequently by the occasional passage of Indians from the Delaware and Potawatamie tribes. The area was heavily forested and wild game plentiful.

The "New Purchase" of 1818 negotiated with the tribal inhabitants of the northern two-thirds of the state allowed the settlement of its central section and, in 1820, Governor Jennings personally led a state commission to examine three sites along the west fork of the White River as possible sites for the new state capitol. The commission recommended a site at the mouth of Fall Creek. This recommendation was accepted by the General Assembly in January of 1821 and the site was given the name of Indianapolis. Marion County was formally organized at the end of that year with Indianapolis as its county seat.

One of the first official acts of the new County Commissioners (John McCormick, John T. Osborn, and William McCartney) was to survey and lay out the nine townships of the county in 1822. Pike Township, as originally laid out, contained forty-four sections or 28,160 acres. The township boundary remains virtually the same today with the exception that in 1828 three sections were added to Washington accounting for Pike's irregular eastern boundary.

Because of the scarcity of the population at the time, the townships were paired and in the elections of May 11, 1822 Abraham Hendricks and Isaac Stephens were elected Justices of the Peace for Pike-Wayne Township. It was not until 1824 that residents of Pike Township held their own elections and, on June 19 of that year, John C. Hume was elected Justice of the Peace for Pike with a plurality of three votes over Thomas Burns - seventeen votes having been cast. The office of Justice of the Peace was particularly important at this time in that it was the only elected office at the township level for the next ten years. As such, the incumbent served in virtually all township government capacities during this period.

Of equal importance with the definition of political jurisdictions was the setting of the local tax rate. On May 13, 1822 this rate was set resulting in the following assessments for Pike Township residents:

- For every horse, mare, gelding mule or ass, over 3 yrs old..... $ .37 1/2
- For stallions (once their rate for the season).....
- For taverns, each..... 10.00

- For every ferry.....	$ 6.00
- For every $100 of appraised valuation of town lots.....	.50
- For every pleasure carriage of two wheels.....	1.00
- For every pleasure carriage of four wheels.....	1.25
- For every silver watch.....	.25
- For every gold watch.....	.50
- For every head of work oxen over three yrs old, per head.....	.25
- On each male person over the age of 21 years.....	.50

"Provided that persons over the age of 50 years and not free holders, and such as are not able from bodily disability to follow any useful occupation, and all idiots and paupers shall be exempt from said last named tax."

Essential to the development of the area was the ability of settlers to move from place to place with relative ease and consequently much emphasis was placed on the building of a road system that would open up the state. As will be seen, roads also played a very important role in the growth and development of Pike Township and have continued to do so over the years to present day.

Early in 1822, the County Commissioners appointed Joel A. Crane and Charles Eckard as Road Commissioners for Pike-Wayne Township. In addition to oversight of the "cutting" of new roads, the commissioners were to "police" the roads, presumably having been given police powers to do so during this early period. The "cutting" of a road meant that the timber along the right-of-way was cut and removed, "the law requiring smaller trees to be cut even with the ground and trees such as are 18 inches and upwards to be cut at the usual height of 12 inches."

The State Legislature ordered state roads to be cut from Indianapolis through Pike Township to Michigan in 1828 and another road from Indianapolis to Lafayette in 1829. Emphasizing the importance placed on it by the Legislature, the Michigan Road was to be 100 feet in width as compared to the normal 48 foot width. Another indication of the perceived importance of this road system was the passage of the Road Law of 1824. This law assessed each able-bodied male a road tax whereby, depending on his financial situation, he was required to work a certain number of days on road building and/or maintenance.

The Michigan Road was surveyed and work begun in Pike Township under the Michigan Road Commissioner, Noah Noble who was to be elected Governor of the state in 1831. In swampy areas of the township the road way "corduroyed" or bedded with logs. Even so, "in wet weather it was impassable to teams and wagons" and

the twelve mile trip to Indianapolis could take as long as two days. (Upon its completion in 1834, the Michigan Road connected the town of Madison on the Ohio River with Lake Michigan. Its total cost was $242,000, virtually all of which was paid for by the sale of land parcels along its right-of-way.)

The road system continued to be emphasized in later years and, by 1862, the Lafayette and Michigan Roads had been graded and graveled making them "two of the best thoroughfares in the county." In the summer of 1877, the first iron bridge in the township was built across Big Eagle Creek on the Lafayette Road at Trader's Point. (The cost was $12,000.) By 1880, there were about 35 miles of gravel roads in the township "fully half of which were free roads."

The earliest recorded white settler in Pike Township was James Harmon of Pulaski County, Kentucky who settled in the general area of what was to become Old Augusta in 1820. His land bordered what is currently 71st Street but was a Delaware Indian trail at that time.

David McCurdy, Sr. was another early settler who moved to Pike Township in 1820 or 1821 and settled on the west bank of Eagle Creek. Mr. McCurdy at one time owned as many as 2,580 acres of land along the creek. He built the first grist mill in the township at what was known as McCurdy Ford and also operated a small distillery. It was Mr. McCurdy that later built the first brick house in the township. Other prominent names in the early settlement of Pike were Freeman Fishback after whom Fishback Creek was named, Joseph Staton for whom Staton Creek was named, the Hollingsworths and the Klingensmiths. David McCurdy had twenty children and by 1865 there appeared the names of twenty-four Hollingsworths and twenty-two Klingensmiths on the voter rolls.

Settlements developed quite naturally along waterways and along the new roads cut in the wilderness. Later, in the 1840's and 1850's, the new railroads which were to connect Indianapolis with the remainder of the country served as the single most important development factor of the century.

The first settlement in Pike Township occurred in 1829 when George Coble, Sr. and Jonathan Ingo founded the village of Augusta near what is now 71st Street west of the new Michigan road. The village was platted in 1831 by David Boardman and James Lee. Accompanying the foundation of the village was the organization of Pike Township's first church--the English Lutheran Church. Perhaps the oldest existing house in the township is located at 7111 Dobson. It was built by the son of the village's co-founder, Dr. George Coble who was the town doctor for some fifty years.

The Piketon Post Office was located at Adam Wright's house on the Lafayette Road and served the township until 1852 when a new station was built next to the newly-completed Indianapolis-Lafayette Railroad. The depot was called Augusta Station and rapidly became the focal point of economic and social life for the community--a role it fulfilled well into the 1920's.

In 1855, a three-man commission was appointed to mark off a tract of land east of the railroad and north of 71st Street that was part of the estate of another earler settler of Augusta--Christopher Hornaday. The new town was named Hosbrook after one of the members of the platting commission and remained so until 1887 when its name was changed to New Augusta. Because of its proximity to the post office and the railroad, as well as the Michigan Road, New Augusta grew at a faster pace than Old Augusta and soon had outstripped it in population. By 1927, the town boasted a saw mill, grain elevator, two general stores, a meat market and a confectionary.

Although Trader's Point (located a half mile north of Bootjack and a half mile south of Licked Skillet on the Lafayette Road) functioned as a distinct community since 1834, it was not platted until John Jennings and Josiah Coughran undertook the task in 1864. The town assumed its name from the fact that it was a convenient location at a bend of Big Eagle Creek where traders met with surrounding farmers and indians to trade goods for poultry, hogs, cattle and horses. From this "trader's point", livestock could then be herded to market in Indianapolis in four to five hours. At one point in its history, the town boasted a large flour mill, "with four run of burrs, - three for wheat and one for corn - with a raceway nearly three-quarters of a mile long."

The village remained relatively isolated until the widening of U. S. 52 in the early 1940's. Although the highway brought more traffic through the community and attracted newcomers who built substantial homes in the vicinity, the original town did not grow to any appreciable degree. When Interstate 65 was built through the middle of the town in the 1960's and Eagle Creek Reservoir developed, the original town completely disappeared.

Trader's Point also held the distinction of being the jumping off point for the Dandy Trail. With the popularization of the automobile there had been a growing demand for a scenic route through the countryside that motorists might drive without getting too far from home or getting lost. The route was laid out mostly on existing gravel roads by M. E. Noblet who was then manager of the Hoosier Motor Club assisted by city officials. It was 88 miles in length and completely encircled Indianapolis - the city's first belt parkway. Hard pressed for a name for the trail, it was eventually named by Mr. Noblet after his Pomeranian show dog, "Dandy", and was marked along its entire length by signs featuring the black silhouette of Dandy trotting happily along with his tail curled up over his back. Mayor Charles Jewett formally "accepted" the trail at a special ceremony in University Park (reportedly attended by Dandy himself) on May 9, 1920. The last segment of the trail to fall into disuse wound its way through western Pike Township. Today

the trail has disappeared, one of its most scenic sections lying at the bottom of Eagle Creek Reservoir.

The rapid development of Indianapolis at the turn of the century and, in fact, during the first half of the Twentieth Century, seems to have left Pike Township virtually untouched. Essentially it remained an underdeveloped expanse of gentle, wooded countryside dotted by farms and estates. In 1960, the population of the entire township was only 6,600 - a little over 140 persons per square mile. They enjoyed an idyllic setting blest with some of the most striking scenery in Marion County.

In the 1960's, however, a series of events took place that dramatically changed the sleepy nature of the township. Until 1960, 38th Street (or Maple Road) which forms the southern border of Pike Township was segmented by White River, isolating it from the intensive development of north-central Marion County. But in that year the river was bridged at 38th Street and those two dual-lane spans effectively "opened up the West." Pike Township would never be the same. The 38th Street bridge was followed in a few years by the building of Interstate 65 which transversed the township making easy, quick access to downtown Indianapolis possible.

Two additional events took place in the decade of the sixties that further accelerated growth. One was the development of Eagle Creek Resevoir and its subsequent attraction for both leisure and residential uses. Of even more importance, however, was the construction in 1969 of the Little Eagle Creek Interceptor Sewer north from 38th Street which opened up the very heart of the township to development.

By 1970, the township population had increased by 125% making it the fastest growing township in central Indiana--if not the entire state. Furthermore, there appeared to be no slacking off of development pressures as tract after tract of agricultural land was bought, rezoned and developed for single- and multi-family housing. Residents were alarmed that the character of the township was being destroyed and there ensued considerable public debate over its impending doom.

The debate became heated and one article in the February 11, 1973 edition of the Indianapolis Star went so far as to apply a verse from "When the Music's Over" by a popular rock group (The Doors) to the dilemma of Pike Township. The article eulogized:

> "What have they done to the earth
> What have they done to our fair sister?
> Ravaged and plundered and ripped her and bit her
> Stuck her with knives in the side of the dawn
> Tied her with fences and dragged her down."

Pike Township has continued to grow over the ensuing years. It has not grown at the breakneck pace that was fearfully predicted in the early 1970's. Yet its growth has continued to be

substantial and it remains the fastest growing township in Marion County. Just where this growth will lead the township is much more than a simple matter of conjecture. It is the motivation and purpose of this Pike Township Plan.

CHAPTER 2
PIKE TOWNSHIP DEMOGRAPHIC PROFILE

When comparing Pike Township with Marion County over the period 1960 to 1980, it is important to realize that at the onset of this period Pike Township was largely undeveloped. Growth in the county as a whole had virtually bypassed Pike and in 1960 less than 6,700 people resided in the area. However, the subsequent twenty years saw a continued move toward the suburbanization of the population. Combined with pressures to replace an aging core-city housing stock, changes in the traditional patterns of household composition and the building of a vastly improved highway network, the development of the township was only a matter of time. Given the development potential of the township, it is not surprising that, at the end of these two decades, resultant comparisons are only able to be expressed in superlatives.

In 1980 (as was also the case in 1970), Pike Township was the fastest growing township in Marion County. While the county grew 10% during the period, Pike Township realized a 280% increase and had continued to grow at an average 5% annual rate through 1984. The only growth rate comparable to this occurred in Lawrence Township. It realized a 127% increase in the same period. Nevertheless, even this remarkable growth was more than doubled in Pike.

The age composition of the Pike Township migration also differed somewhat from that of the county (see Figure 1). It was noticeably younger - principally the result of the influx of middle aged residents. Whereas the percentage of residents under the age of 20 was relatively consistant with the county's percentage, the 20 to 64 year old cohort was four percentage points higher, and residents from 20 to 45 years of age constituted 47% of the Pike population as compared to only 38% for the county. On the other hand, the percentage of residents that were 60 years old or older was over 6 percentage points, or 42%, lower than that of the county. Overall, the primary demographic characteristic affecting the relative youth of the population was the large migration of lower-middle-aged residents to Pike during this 20 year period as illustrated in Figure 1.

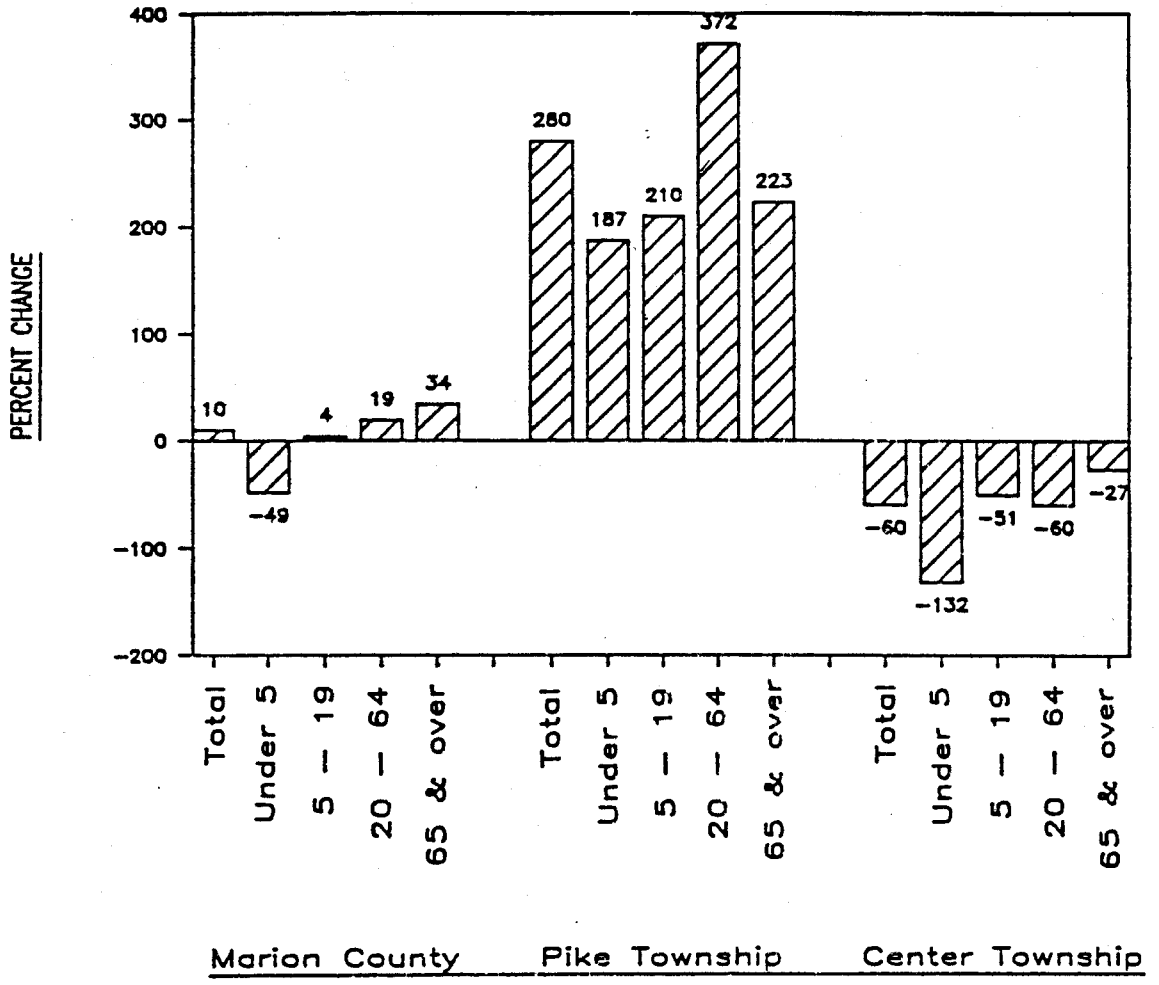
The racial composition of the township was also greatly affected by the population boom. In 1960, 2.6% of Pike Township's population was black, while by 1980 the black portion of the population had risen to 15.9%. Between 1970 and 1980, Pike was the only township where both the black and white populations increased in all areas of the township. However, 73% of the growth in black population was concentrated on the southern border of the township. While the total number of other minorities also increased in Pike Township between 1960-1980, their percentage to the population remained consistently under 1%. According to the 1980 Census, the mean income for black families in Pike Township was $20,245, higher than the county mean of $17,710 for black families.

FIGURE 1

PIKE TOWNSHIP

Percent Population Change

1960 – 1980



Source: U.S. Bureau of the Census

Since 1979, Pike Township has ranked second (to Washington Township) in per-capita income. In 1979, Pike's per-capita income was $9,479 compared to a county per-capita income of $7,677. Between 1979 and 1983 Pike's per-capita income grew by 32.5%, the highest growth rate in the county and significantly higher than the 27.2% county-wide growth rate. In 1983, Pike's per-capita income was $12,561 (Figure 2). This compares with Washington Township's per-capita income of $13,345, the highest in the county and Center Township's per capita income of $6,444, the lowest per-capita income in the county. Clearly, Pike is one of the more affluent townships of the county.

Further analysis of Pike's populace in Table 1 indicates a comparatively high level of completed education. 85% of Pike's over 25 population has at least a high school education--the highest rate in the county. 50.6% of the people in Pike have some level of college education compared to 35.4% of total county population. This high level of education is reflected in the occupations of Pike's residents. 79.8% of the employed population of Pike are employed in white collar jobs compared to a county average of 70.3%. Pike also ranks second (to Washington Township) in having the highest proportion of professionals to population. These professionals accounted for 32% of the increase in employed population between 1960 and 1980 in Pike Township. The comparison of education level and occupation of Pike's residents to Marion County is detailed in Figures 3 and 4.

Easily the most dramatic element of change in Pike Township was the evolution that occurred in its housing stock from 1960 to 1980, as indicated in Tables 2 and Figure 5. Marion County as a whole realized a 33% net increase in housing during this time. However, the total number of housing units in the township increased from 2,072 to 11,350, or a 448% gain. The great majority of this increase took place in the decade of the seventies when 6,917 units (or 75% of the increase) were built. By the beginning of 1987, another 7,537 units had been added to this housing inventory, almost doubling the annual rate of increase experienced in the seventies. Since 1970, continued residential construction has averaged a 20% annual increase in Pike's housing stock.

Not only was the rate of housing growth remarkable, but just as noteworthy was the composition of that growth. In 1960, 98% of the housing in Pike Township was in single-family development. Only 34 units (2%) were in multi-family development.

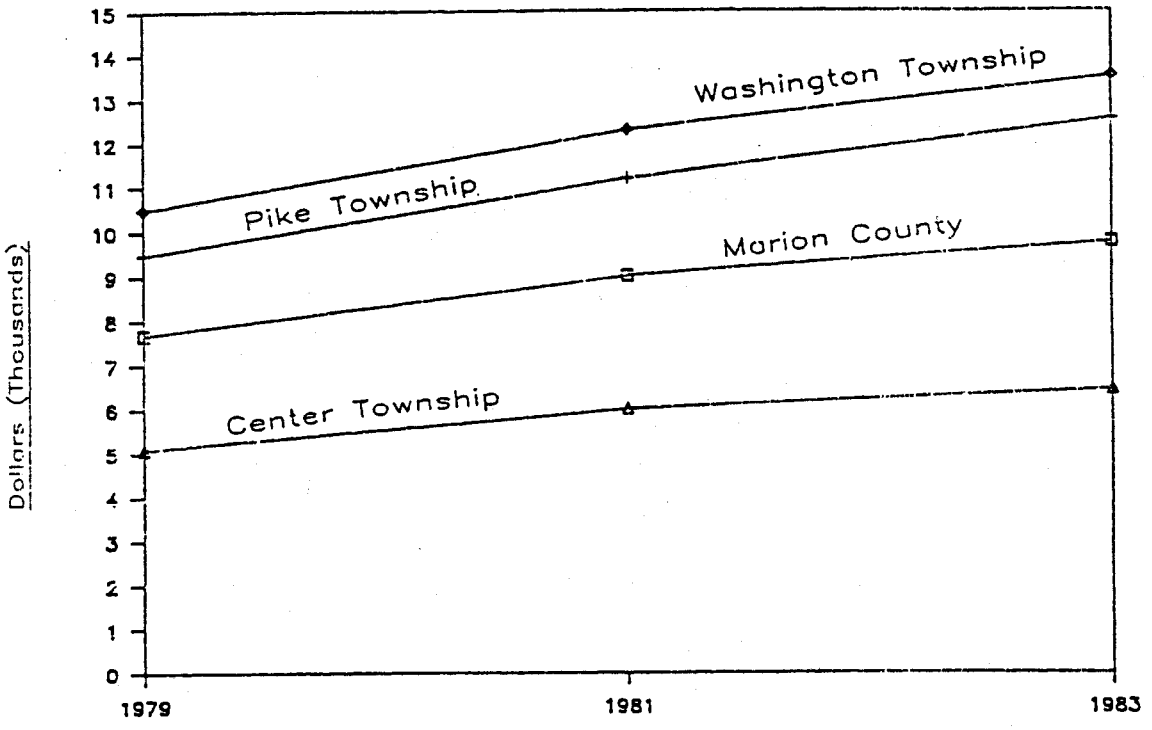
By 1980,the single-family share of the housing inventory had fallen dramatically to 71% despite the fact that this housing segment had realized a 297% increase of 6,024 units during the period. The reason for this was the 9,544% increase in multi-family units. Whereas there were only 34 multi-family units in 1960, 3,245 units were added in the ensuing years, the great majority being built during the 1970's. As evidence of the marketability of this development, the absorption rate for this new housing was at 87% in 1980.

FIGURE 2

PIKE TOWNSHIP

Per Capita Income

1979 – 1983



Source: U.S. Bureau of the Census

TABLE 1

Pike Township Education and Employment

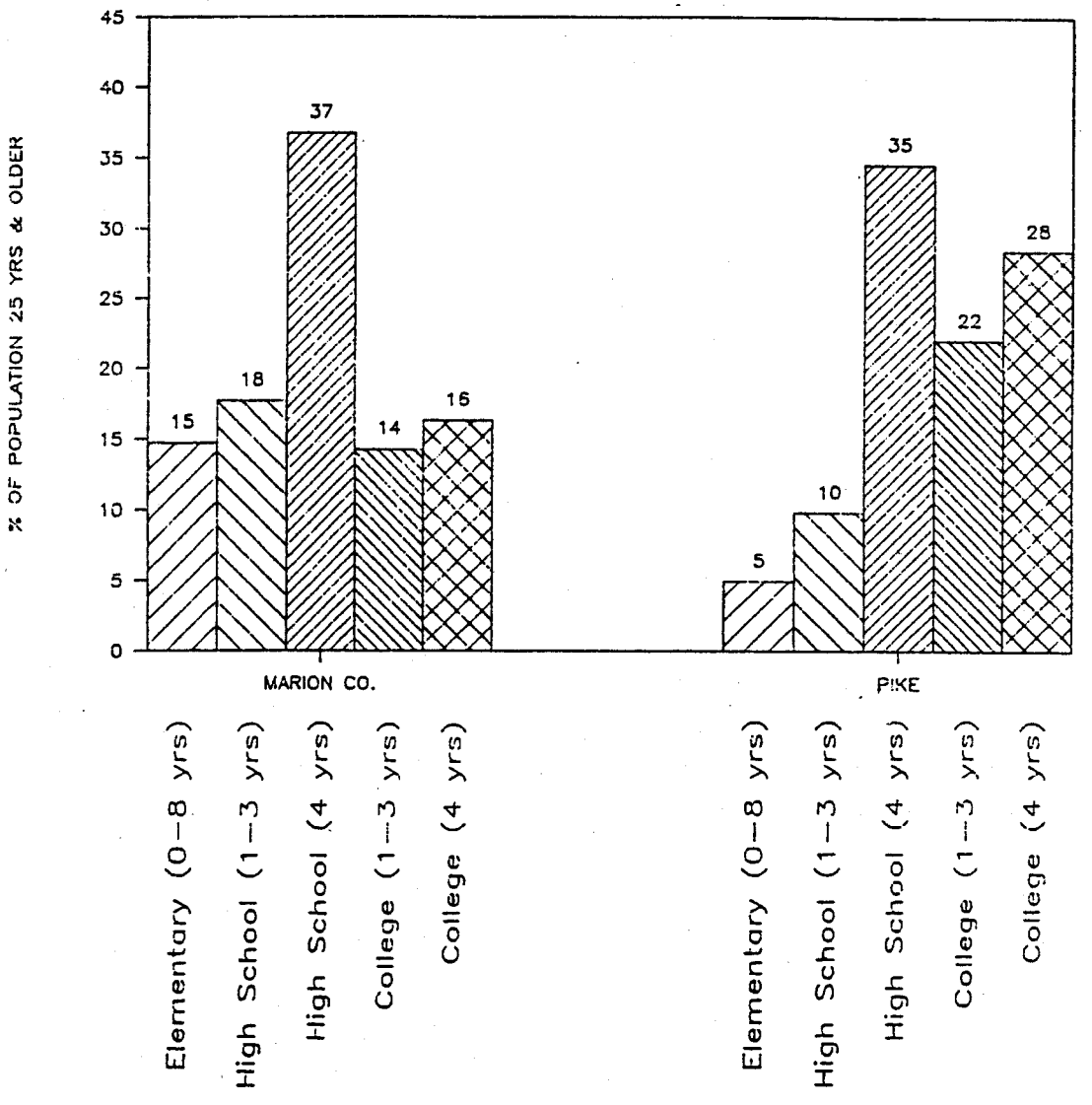
	1960	1970	1980	% CHANGE 1960-1980	% OF 1960 POPULATION	% OF 1980 POPULATION
EDUCATION LEVEL OF RESIDENTS 25 YEARS AND OLDER						
Elementary (0-8 years)						
Pike Township	718	709	719	0.1%	19.1%	5.0%
Marion County	125096	94317	65588	-47.6%	32.1%	14.8%
1-3 years high school						
Pike Township	530	1091	1417	167.4%	14.1%	9.9%
Marion County	83620	89898	78852	-5.7%	21.5%	17.8%
4 years high school						
Pike Township	1285	3064	4976	287.2%	34.1%	34.6%
Marion County	106910	139866	163470	52.9%	27.4%	36.8%
1-3 years college						
Pike Township	570	1168	3173	456.7%	15.1%	22.1%
Marion County	37306	44453	63558	70.4%	9.6%	14.3%
4 or more years college						
Pike Township	662	1317	4099	519.2%	17.6%	28.5%
Marion County	33816	44453	72588	114.7%	8.7%	16.3%
EMPLOYED PERSONS 16 YEARS AND OVER BY OCCUPATION						
Professional, Technical and Managerial						
Pike Township	1000	2030	4965	396.5%	39.0%	36.8%
Marion County	74396	73632	90171	21.2%	24.7%	25.5%
Sales, Administrative Support, Clerical						
Pike Township	674	1954	4288	536.2%	26.3%	31.7%
Marion County	94044	94536	110786	17.8%	31.3%	31.3%
Craftsmen, Foremen, Percision Production, Repair						
Pike Township	327	792	1212	270.6%	12.7%	9.0%
Marion County	42939	42932	38321	-10.8%	14.3%	10.8%
Operators, Laborers, Fabricators, Etc.						
Pike Township	375	849	1456	288.3%	14.6%	10.8%
Marion County	69001	68593	65229	-5.5%	22.9%	18.4%
Farm Workers						
Pike Township	--	39	53			0.4%
Marion County	932	913	1928	106.9%	0.3%	0.5%
Service Workers						
Pike Township	189	487	1532	710.6%	7.4%	11.3%
Marion County	19373	39623	47845	147.0%	6.4%	13.5%

FIGURE 3

PIKE TOWNSHIP

Level of Education Completed

1980



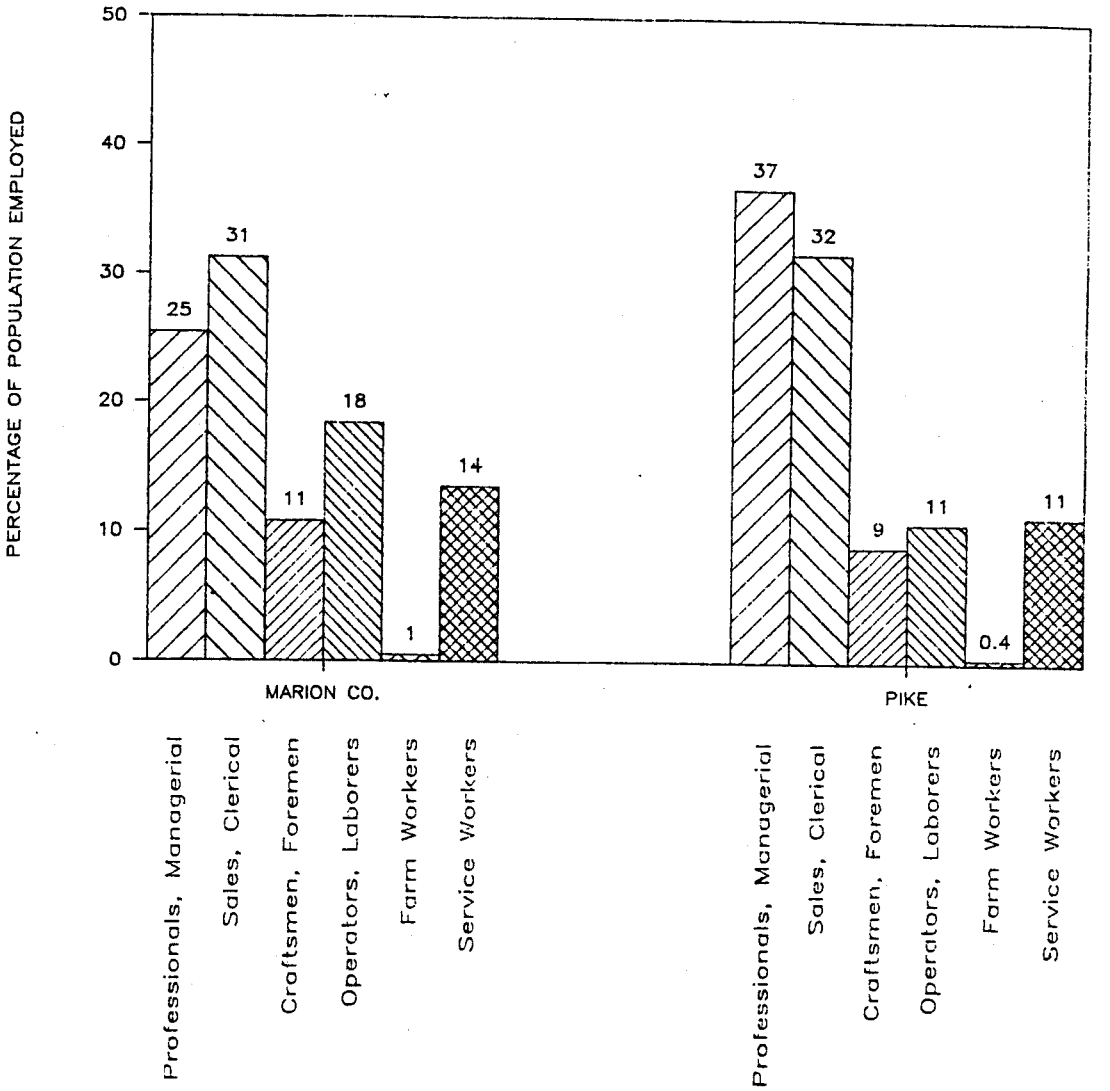
Source: U.S. Bureau of the Census

FIGURE 4

PIKE TOWNSHIP

Occupation of Residents

1980



Source: U.S. Bureau of the Census

TABLE 2

Pike Township Comparisons, Selected Data Items

	1960	1980	60 - 80 % Change	1982	1984	80 - 84 % Change
POPULATION						
Pike Township	6,662	25,336	+ 280%	27,097	30,534	+ 21%
Washington Twsp.	97,861	129,008	+ 32%	129,230	128,851	+ 1%
Lawrence Twsp.	34,305	75,860	+ 121%	77,771	79,982	+ 5%
HOUSING UNITS						
Pike Township	2,072	11,350	+ 448%	13,975	15,930	+ 40%
Washington Twsp.	31,415	54,811	+ 74%	56,689	58,346	+ 8%
Lawrence Twsp.	9,334	29,647	+ 217%	31,826	33,624	+ 13%
SINGLE FAMILY						
Pike Township	2,033	4,751	+ 135%	5,162	5,807	+ 22%
Washington Twsp.	28,692	32,224	+ 12%	32,319	32,475	+ 1%
Lawrence Twsp.	9,043	16,549	+ 83%	17,097	18,084	+ 9%
MULTI-FAMILY**						
Pike Township	34	6,524	+ 19088%	8,762	10.038	+ 54%
Washington Twsp.	2,725	21,137	+ 676%	22,902	24,363	+ 15%
Lawrence Twsp.	254	8,858	+ 3387%	14,414	15,196	+ 72%

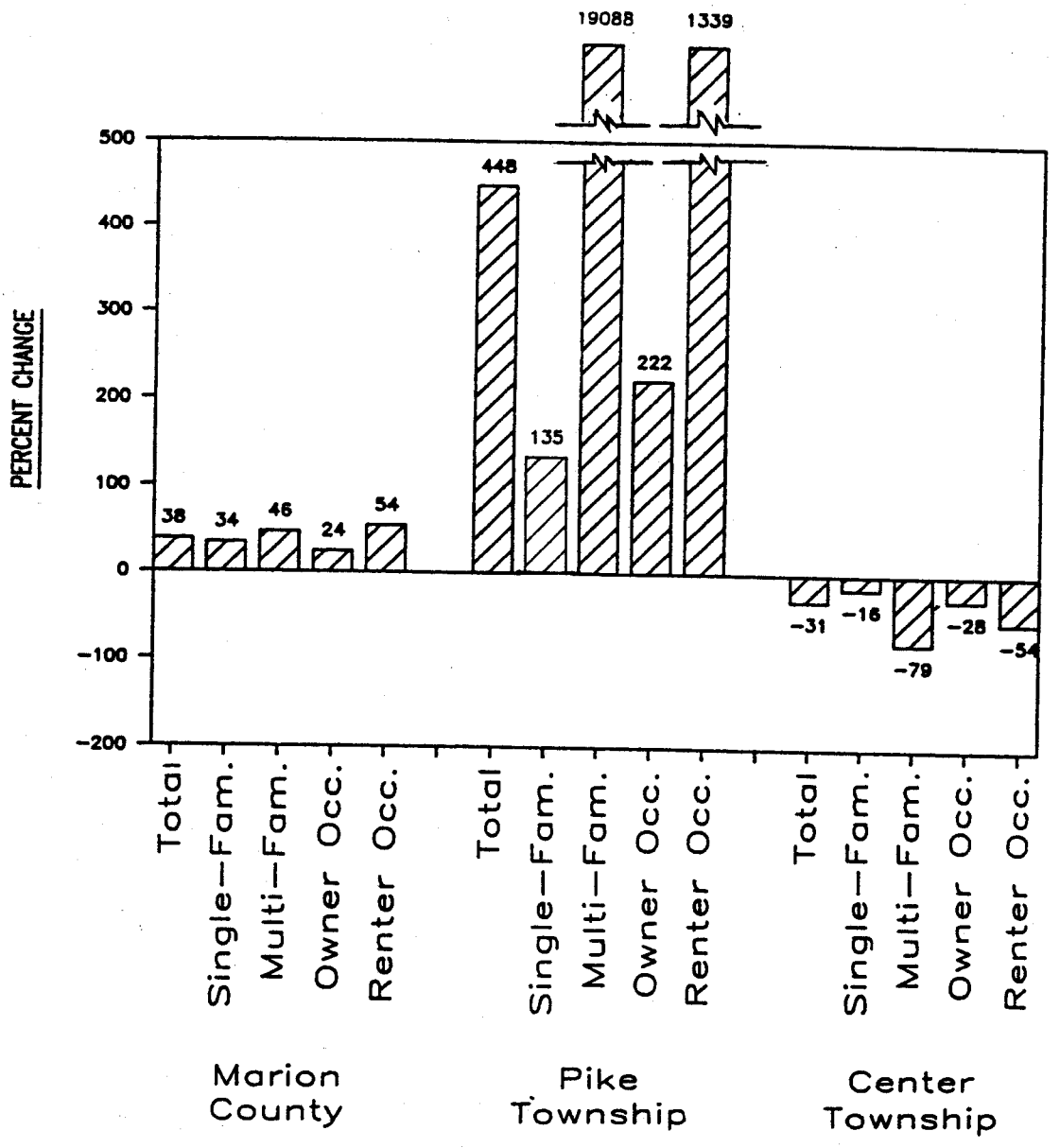
** multi-family category includes single-unit attached (i.e. duplexes)

FIGURE 5

PIKE TOWNSHIP

Percent Housing Stock Change

1960 – 1980



Source: U.S. Bureau of the Census

This development had a marked effect on the demography of Pike in that the multi-family construction tended to attract younger people with fewer children to the township. As a result, it lowered the median age which, at 27.5 years, was almost two years younger than the county median in 1980. Impacted also was the average size of households in Pike, which, at 2.54, was the lowest in Marion County (with the exception of Washington Township).

NOTE: Information presented in previous section obtained from U.S. Bureau of the Census sources.

CHAPTER 3

PIKE TOWNSHIP LAND USE INVENTORY CHANGES 1973-1985

TOWNSHIP CHANGES

A principal measure of change in any given geographic area is the change that occurs in the use made of the land itself. Changes in land use in Pike Township were studied for the period 1973 through 1985. These two points in time were chosen because of the rapid development of the township that took place during this period, as well as the fact that aerial photography of the township was available allowing the direct comparison of these two years.

What follows is a brief summary of the principal changes that took place in the township as evidenced by comparison of these two "snapshots" in time.

Vacant Land Use

Between 1973 and 1985, the amount of vacant land in Pike Township decreased by 19%, or approximately 3,300 acres. Even so, 51% of the total land area remained vacant at that time.

Residential Land Use

During this time, residential land use in Pike Township increased by 1,671 acres, or 68%. At that point in time, residentially developed land constituted 14.7% of the total township acreage (having risen from 8.8% in 1973).

This represented both the largest absolute change in acreage use in the township as well as the largest change in percentage of total land dedicated to a specific use.

The majority of this increase in residential land was in single-family acreage which increased by 991 acres.

However, 680 acres of the total residential increase was devoted to multi-family development which had a much greater unit density and area impact than acreage used for single-family development.

Whereas the total acreage used for single-family housing in the township increased 43%, that devoted to multi-family housing increased by over ten times that percentage (467%), establishing it as the most dramatic change of the period.

Commercial Land Use

Land used for commercial purposes increased by 144% from 1973 to 1985. In absolute numbers, this represents the conversion and/or development of 605.5 acres to some form of commercial use.

This period saw the development of a substantial amount of office space in Pike Township where only an insignificant amount had previously existed. Land rezoned and/or developed for this purpose represented the highest percentage change of any land use category. While 1973 saw only a little over 29 acres devoted to office space, 169 additional acres had been assigned to this commercial purpose by 1985 - a 578% increase.

The great majority of this development took place in the northeast quadrant of 86th Street's intersection of Michigan Road.

The growth of retail establishments in the township reflects the corresponding increase in residential development. Retail acreage in Pike Township more than doubled between 1973 and 1985 with the addition of 436 acres, the great majority occurring in the vicinity of 86th Street and Michigan Road and the 38th Street and Lafayette Road corridors in southern Pike.

Industrial Land Use

Land used for industrial purposes more than doubled in Pike Township in the twelve-year period of the study. Acreage dedicated to light industry doubled, while that devoted to heavy industry increased 91%.

Altogether, 749 acres were converted to industrial uses - second in amount only to residential conversions.

Eighty-five percent of this growth occurred in the north-central part of the township--generally along the Conrail tracks north of 79th Street.

The build-up of Park 100 heavily influenced the growth of the industrial sector in Pike.

Public Land Use

The least degree of change in the township was in the public land use sector. Even though public and semi-public uses increased by 145 acres, changes in park land and the street system were negligible.

Although acreage dedicated to public park lands did not increase appreciably, it remained easily the largest single land use category in the township (due mostly to Eagle Creek Park).

The smallest amount of change was in the category of streets which grew by only two percent in the twelve-year period. This statistic is a little misleading because the street inventory only includes major roadways and does not include new subdivision street constructed during the twelve year study period.

TABLE 3

PIKE TOWNSHIP
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	2301.1	3292.3	991.2	43.1%	8.2%	11.8%
b) Multi-family	145.5	825.5	680.0	467.4%	0.5%	3.0%
Total Residential	2446.6	4117.8	1671.2	68.3%	8.8%	14.7%
2. Commerical						
a) Office	29.3	198.5	169.2	577.5%	0.1%	0.7%
b) Retail	392.5	828.8	436.3	111.1%	1.4%	3.0%
Total Commerical	421.8	1027.3	605.5	143.6%	1.5%	3.7%
3. Industrial						
a) Light	260.8	786.3	525.5	201.5%	0.9%	2.8%
b) Heavy	247.5	471.0	224.0	90.5%	0.9%	1.7%
Total Industrial	508.3	1257.3	749.5	147.4%	1.8%	4.5%
4. Public						
a) Public/Semi-Public	675.5	820.5	145.0	22.2%	2.4%	2.9%
b) Streets	1615.3	1651.2	35.9	2.2%	5.8%	5.9%
c) Public Parks	4669.9	4751.8	81.9	1.8%	16.7%	17.0%
Total Public	6960.7	7223.5	262.8	3.8%	24.9%	25.9%
5. Vacant Lands						
Total Acres	27920.0	27920.0				
- #'s 1-4	10337.4	13625.9	3288.5	31.8%	37.0%	48.8%
Vacant Land	17582.6	14294.1	-3288.5	-18.7%	63.0%	51.2%

Note: Columns will not always total due to rounding.

Summary

In summary, Pike Township experienced a continued build-up during the study timespan of twelve years that saw development of 3,300 acres of vacant land for residential, commercial, industrial and public uses. Based on this analysis, three major findings emerge. These are:

- The remarkable growth experienced in multi-family housing;
- The equally dynamic expansion of the township's commercial and industrial sectors; and
- The approximate 14,300 acres (fifty percent of the total township) available for future development.

Table 3 summarizes the land use changes during the period studied.

SUBAREA LAND USE CHANGES

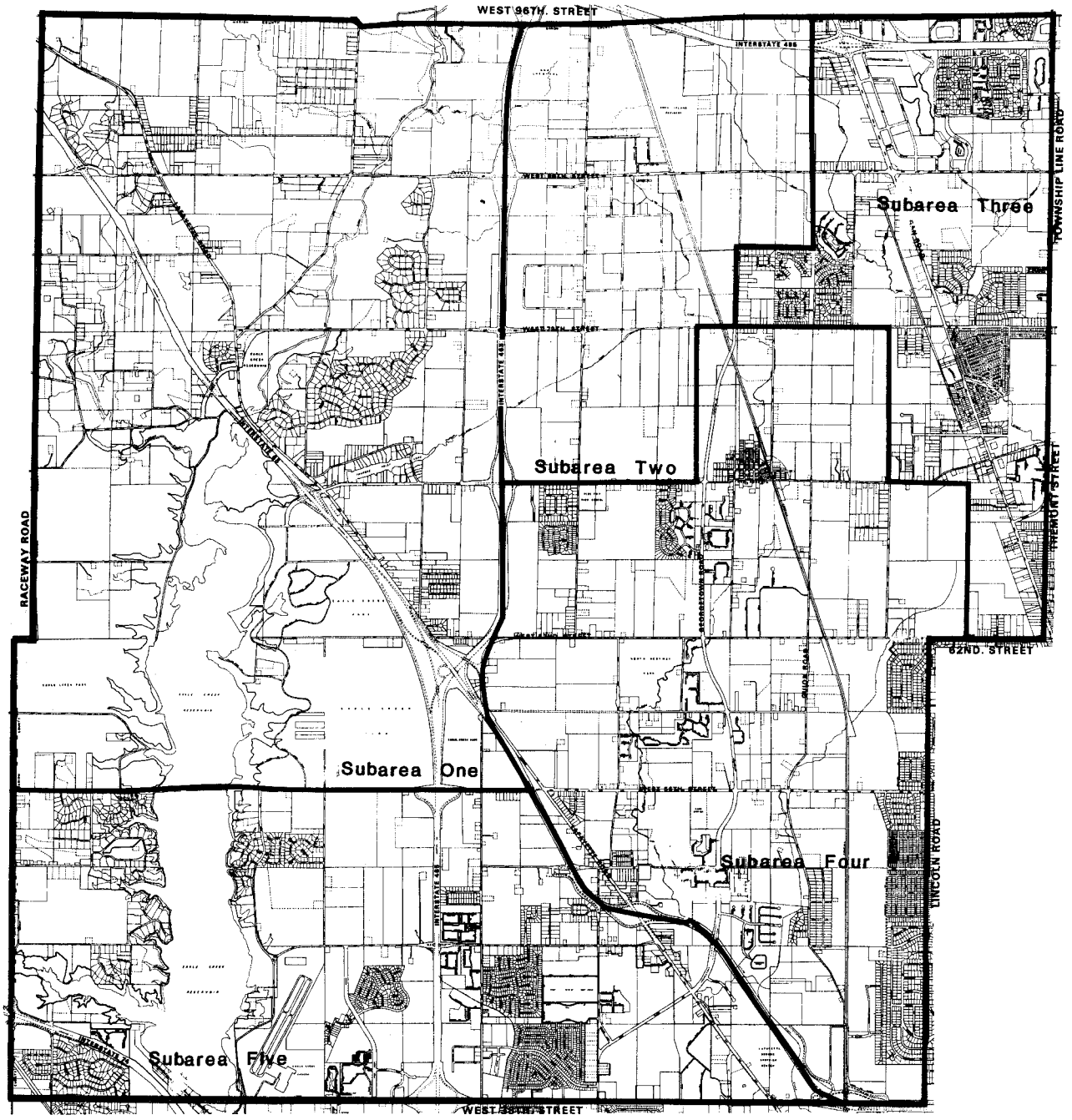
To provide additional study detail, Pike Township has been segmented into five geographic subareas (see Map 1). Each of these five subareas are not completely homogenous in their land use characteristics. However, each subarea contains enough similarities that allow general statements to be made about existing conditions and projected trends.

Subarea One

This subarea has shown the least amount of change between 1973 and 1985 among the five subareas of Pike Township. In 1985, less than ten percent of the land area had been developed for residential, commercial and industrial uses. During this twelve-year period, only 400 acres underwent conversion from previously vacant land and fully three-quarters of this conversion was in single-family residential development.

Next to vacant land which constituted 47% of its land area, the highest amount of acreage in the subarea (44%) was in public and semi-public uses. In fact, better than one-third of the subarea's land was contained within the boundaries of Eagle Creek Park which is its dominant feature.

Table 4 summarizes this subarea's land use changes.



PIKE TOWNSHIP PLANNING STUDY

MAP 1

SUBAREA LOCATIONS

N

Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

TABLE 4

SUBAREA ONE
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	577.6	885.3	307.7	53.3%	6.0%	9.2%
b) Multi-family	0.0	0.0	0.0	0.0%	0.0%	0.0%
Total Residential	577.6	885.3	307.7	53.3%	6.0%	9.2%
2. Commerical						
a) Office	0.0	0.0	0.0	0.0%	0.0%	0.0%
b) Retail	4.5	4.5	0.0	0.0%	0.0%	0.0%
Total Commerical	4.5	4.5	0.0	0.0%	0.0%	0.0%
3. Industrial						
a) Light	2.0	4.8	2.8	137.5%	0.0%	0.0%
b) Heavy	0.0	0.0	0.0	0.0%	0.0%	0.0%
Total Industrial	2.0	4.8	2.8	137.5%	0.0%	0.0%
4. Public						
a) Public/Semi-Public	46.0	56.5	10.5	22.8%	0.5%	0.6%
b) Streets	492.8	499.7	6.9	1.4%	5.1%	5.2%
c) Public Parks	3608.9	3681.8	72.9	2.0%	37.3%	38.1%
Total Public	4147.6	4238.0	90.3	2.2%	42.9%	43.9%
5. Vacant Lands						
Total Acres	9663.0	9663.0				
- #'s 1-4	4731.8	5132.6	400.8	8.5%	49.0%	53.1%
Vacant Land	4931.2	4530.4	-400.8	-8.1%	51.0%	46.9%

Subarea Two

Between 1973 and 1985, 700 acres of previously vacant land were converted to other uses. Easily the most significant land use change in the sub-area was the continued development of its industrial sector. Six hundred forty-three acres were developed for this use during this time increasing acreage devoted to this use by 231%.

This development occurred in both the heavy and light industrial use categories. Intensified build-up of Park 100 and adjacent areas added 444 acres of light industry, while the expansion of heavy industry north of 86th Street (mostly along the Conrail corridor) added 200 acres.

Another significant change occurred with the development of a mixed retail/light industrial node on 71st Street between I-465 and Zionsville Road.

TABLE 5

SUBAREA TWO
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	39.5	25.5	-14.0	-55.0%	1.2%	0.8%
b) Multi-family	0.0	1.5	1.5	----	----	----
Total Residential	39.5	27.0	-12.5	-46.0%	1.2%	0.8%
2. Commerical						
a) Office	0.0	36.5	36.5	----	0.0%	1.1%
b) Retail	1.0	39.3	30.3	----	0.0%	1.2%
Total Commerical	1.0	75.8	66.8	----	0.0%	2.4%
3. Industrial						
a) Light	32.3	476.0	443.8	1376.0%	1.0%	14.9%
b) Heavy	246.5	446.0	199.5	81.0%	7.7%	14.1%
Total Industrial	278.8	922.0	643.3	231.0%	8.8%	29.0%
4. Public						
a) Public/Semi-Public	0.0	2.0	2.0	----	----	0.1%
b) Streets	198.5	198.5	0.0	0.0%	6.2%	6.2%
c) Public Parks	0.0	0.0	0.0	0.0%	0.0%	0.0%
Total Public	198.5	200.5	2.0	2.2%	6.2%	6.3%
5. Vacant Lands						
Total Acres	3184.5	3184.5				
- #'s 1-4	517.8	1225.3	699.5	135.1%	16.3%	38.5%
Vacant Land	2666.7	1959.2	-699.5	-26.2%	83.7%	61.5%

Subarea Three

By the end of 1985, this subarea had the lowest amount of vacant land both in absolute terms (1,396 acres) and relative terms (46%) making it the most intensely developed subarea in Pike Township. Fully 25% of this development took place within the study's timeframe.

Major changes within two land use categories deserve special note.

Four hundred twenty-five acres of residential development was realized in this period. The significance of this conversion is perhaps understated by this number, however, since fully one-half of this change was devoted to multi-family use. This represented an 850% increase in multi-family development since 1973. Residential uses comprised 32% of the total acreage of the subarea making it the most residential in the township from a percentage viewpoint .

Another significant change was the commercial development of the Michigan Road corridor north of 86th Street. This was the principal reason for a 396% increase in commercial land use. The development was split almost equally between office and retail uses.

Table 6 summarizes the subarea 3 land use changes.

TABLE 6

SUBAREA THREE
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	521.5	729.0	207.5	40.0%	17.1%	23.9%
b) Multi-family	25.5	242.5	217.0	851.0%	0.8%	8.0%
Total Residential	547.0	971.5	424.5	78.0%	17.9%	31.9%
2. Commerical						
a) Office	25.3	139.0	113.8	450.0%	0.8%	4.6%
b) Retail	53.5	230.5	177.0	331.0%	1.8%	7.6%
Total Commerical	78.8	369.5	290.8	369.0%	2.6%	12.2%
3. Industrial						
a) Light	0.0	11.0	11.0	----	0.0%	0.4%
b) Heavy	0.0	10.0	10.0	----	0.0%	0.3%
Total Industrial	0.0	21.0	21.0	----	0.0%	0.7%
4. Public						
a) Public/Semi-Public	65.0	81.5	16.5	25.0%	2.1%	2.7%
b) Streets	207.5	207.5	0.0	----	6.8%	6.8%
c) Public Parks	0.0	3.0	3.0	----	0.0%	0.1%
Total Public	272.5	292.0	19.5	7.0%	8.9%	9.6%
5. Vacant Lands						
Total Acres	3049.5	3049.5				
- #'s 1-4	898.3	1654.0	755.7	84.1%	29.5%	54.2%
Vacant Land	2151.2	1395.5	-755.7	-35.1%	70.5%	45.8%

Subarea Four

Although this subarea has only the second greatest land area of the five Pike Township subareas, it had the highest percentage of vacant land in 1985.

The most dramatic land use variant between 1973 and 1985 was a 1,647% increase in multi-family acreage in the south-central portion of the subarea as 280 acres were added to this land use category. Altogether, the amount of residential land use increased by 64%.

Light industrial uses also increased by 30% during the period as continued industrial development took place along the Conrail right-of-way.

Table 7 summarizes subarea 4 land use changes.

TABLE 7

SUBAREA FOUR
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	624.5	754.0	129.5	20.7%	9.6%	11.6%
b) Multi-family	17.0	297.0	280.0	1647.1%	0.3%	4.6%
Total Residential	641.5	1051.0	409.5	63.8%	9.9%	16.2%
2. Commerical						
a) Office	4.0	11.5	7.5	187.5%	0.1%	0.2%
b) Retail	157.5	201.5	44.0	27.9%	2.4%	3.1%
Total Commerical	161.5	213.0	51.5	31.9%	2.5%	3.3%
3. Industrial						
a) Light	226.5	294.5	68.0	30.0%	3.5%	4.5%
b) Heavy	1.0	15.0	14.0	1400.0%	0.0%	0.2%
Total Industrial	227.5	309.5	82.0	36.3%	3.5%	4.8%
4. Public						
a) Public/Semi-Public	156.0	255.5	99.5	63.8%	2.4%	3.9%
b) Streets	452.5	452.5	0.0	0.0%	7.0%	7.0%
c) Public Parks	129.0	129.0	0.0	0.0%	2.0%	2.0%
Total Public	737.5	837.0	99.5	13.5%	11.3%	12.9%
5. Vacant Lands						
Total Acres	6504.0	6504.0				
- #'s 1-4	1768.0	2410.5	642.5	36.3%	27.2%	37.1%
Vacant Land	4736.0	4093.5	-642.5	-13.6%	72.8%	62.9%

Note: Columns will not always total due to rounding.

Subarea Five

Subarea Five experienced strong growth in both the residential and commercial sectors between 1973 and 1985. Three hundred sixty-one acres were added to the sub-area's single-family residential inventory while multi-family uses experienced a 176% change with the addition of 182 acres. Residential uses represented 21% of the sub-area's total land use in 1985.

The timespan of the study also saw the continued growth of its retail commercial sector as 177 acres were added doubling its share of land area. The great majority of this conversion took place along 38th Street as road frontage of the former Shank Airport was completely developed for commercial use.

Table 8 summarizes subarea 5 land use changes.

TABLE 8

SUBAREA FIVE
LAND USE INVENTORY
CHANGES: 1973 - 1985
(ACRES)

Land Use	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	538.0	898.5	360.5	67.0%	9.7%	16.3%
b) Multi-family	103.0	284.5	181.5	176.2%	1.9%	5.2%
Total Residential	641.0	1183.0	542.0	84.6%	11.6%	21.4%
2. Commerical						
a) Office	0.0	11.5	11.5	----	0.0%	0.2%
b) Retail	176.0	353.0	177.0	100.6%	3.2%	6.4%
Total Commerical	176.0	364.5	188.5	107.1%	3.2%	6.6%
3. Industrial						
a) Light	0.0	0.0	0.0	0.0%	0.0%	0.0%
b) Heavy	0.0	0.0	0.0	0.0%	0.0%	0.0%
Total Industrial	0.0	0.0	0.0	0.0%	0.0%	0.0%
4. Public						
a) Public/Semi-Public	408.5	425.0	16.5	4.0%	7.4%	7.7%
b) Streets	264.0	293.0	29.0	11.0%	4.8%	5.3%
c) Public Parks	932.0	938.0	6.0	0.6%	16.9%	17.0%
Total Public	1604.5	1656.0	51.5	3.2%	29.1%	30.0%
5. Vacant Lands						
Total Acres	5519.0	5519.0				
- #'s 1-4	2421.5	3203.5	782.0	32.3%	43.9%	58.0%
Vacant Land	3097.5	2315.5	-782.0	-25.2%	56.1%	42.0%

Note: Columns will not always total due to rounding.

CHAPTER 4

PIKE TOWNSHIP ZONING CHANGES 1973-1985

ZONING CATEGORIES

One way to monitor the type and direction of an area's future development is to examine zoning changes that have taken place overtime. Changes in zoning in Pike Township were studied for the years 1973 through 1985. This period was chosen because it was characterized by rapid development, and because it corresponded to that used for the land use inventory.

There are 95 primary and special use zoning districts contained in the Marion County Zoning Ordinance. To establish a manageable number of districts for this study and to provide correlation with the land use inventory, these districts were consolidated into five zoning categories (residential, commercial, industrial, public, and agriculture) to describe zone changes. Zoning sub-categories were then created under these five categories, according to densities and land uses. These sub-categories are explained in the following pages.

Description of Zoning Categories

Residential Category - The residential category was separated into two sub-categories according to density:

1. Single-Family - This sub-category contains single-family units with densities ranging from 1 to 4.5 units/gross acre. Areas in the sub-category are zoned D-1 through D-5, D-S and D-P. (The D-P zoning district provides for planned unit developments which generally have a mixture of uses and densities. For the purposes of this study, the D-P zoned acres were equally divided between the single-family and multi-family sub-categories. The division was based on the fact that developed D-Ps in Pike Township contain equal proportions of single and multi-family development. It was also based on the observation that undeveloped D-P districts are equally located near existing single and multi-family areas).

2. Multi-Family - All apartment-type dwellings with densities ranging between 9-22 units/gross acre, are included in this sub-category. Areas in this sub-category are zoned D-6 II through D-9, and D-P.

Commercial Category - The commercial category was also separated into two sub-categories, (office and retail) according to land use:

1. Office - Office districts permit buildings and associated property where record keeping, clerical work, or administrative and professional activities are generally transacted and where the general public's rights and access are restricted. The zoning districts included in this sub-category are C-1 and C-2.

2. Retail - Retail districts permit buildings and associated property where goods are sold to the ultimate consumer and where public access is generally unrestricted. This sub-category include the C-3 through C-7 zoning districts.

Industrial Category - The industrial category was separated into light and heavy industrial sub-categories.

1. Light Industrial - Light industrial uses are wholly contained in an enclosed building and have very limited outside storage of raw material, equipment, or manufactured products. Districts I-1-S, I-2-S, I-2-U, C-S and C-I-D are included in this sub-category. (The C-S, commercial - special district, was included in the light industrial sub-category, even though it does permit some commercial activity, because most of the developed C-S areas in Pike Township are used for light industry and most of the undeveloped C-S areas boarder I-1-S, I-2-S, or I-2-U districts).

2. Heavy Industrial - Heavy industrial uses are those manufacturing, processing, warehousing, and distribution activities which require buildings and open areas for their activities and which have a greater nuisance factor than light industrial uses. I-3-S, I-3-U, and I-4-S are classified as heavy industrial uses.

Public Category - The public category was divided into three sub-categories: parks, park buffers, and special uses.

1. Parks - Parkland and forestry districts are included in this sub-category. The primary park district (PK1) permits all sizes and ranges of public parkland and facilities. The forestry district (F1) permits forests, fish hatcheries, and projects specifically designated for soil or water conservation.

2. Park Buffers - Park district 2 (PK2) is a zoning district established adjacent to public parks. It permits parkland as well as other uses approved to be compatible and harmonious with park (PK1) uses.

3. Special Uses - These districts include land activities that have characteristics of operation which do not readily permit classification in the usual residential, commercial, or industrial districts. They are necessary to the livability and economic health of the community but their specific control is also needed. Special uses include churches, schools, hospitals, airports, power substations, etc.

Agricultural Category - The agricultural category includes the A-1 and A-2 zoning districts and is the only category in this study that is not divided into sub-categories. The A-1 and A-2 districts permit the production of grains, storage structures, grazing, commercial greenhouses, and stands for the sale of agricultural products.

PIKE TOWNSHIP ZONING CHANGES

Residential Category

During the years of this study, zoned residential areas increased by 2,246 acres or 37.9%. In 1973, residential districts constituted 21.2% of the township's total acreage. By 1985 this percentage had risen to 29.3%.

Most of the residential growth resulted from additional single-family rezonings. New single-family districts accounted for over 77% of all new residential districts. The additional 515 acres of multi-family area accounts for only23% of the township's additional residential zoning.

The growth of single and multi-family residential areas between 1973 and 1985 was proportional to the original 1973 figures. For example, single-family districts accounted for 80% of the township's total residential districts in 1973. This category grew by 80% between 1973 and 1985 and therefore still makes up about 80% of the township's total residential acres.

Commercial Category

Land zoned for commercial purposes increased by 639 acres or 69% from 1973 to 1985. This increase meant that commercially zoned areas made up 5.6% of the township's total acres in 1985, up from a 3.3% level in 1973.

Although area zoned for retail trade had a larger net gain than office area, the 293 new acres of office district represents over a 300% increase in office area. In 1973 Pike Township only had 95 acres of zoned office space (an insignificant .3% of the township's total acres). Because of the larger increase in new office districts, office acres accounted for 1.4% of the township's total acres by 1985 and made up 25% of the total commercially zoned acres.

The acres zoned for retail districts did not increase nearly as fast as those zoned for office districts. Even though retail areas increased 346 acres or 41.6% between 1973 and 1985 this category dropped from 90% to 75% of the townships commercial land during the 13 years covered by the study.

Industrial Category

Acreage zoned for industrial use increased by 1,171 acres or 34.8% between 1973 and 1985. These additional industrial districts, located primarily in the north central section of the township, increased industrial zoned acres to 16.2% of Pike Township's total area (up from the 1973 level of 12.0%).

The new acres of industrial districts where divided between light and heavy industrial uses by a 2:1 ratio. Light industrial acres increased by 803 acres (68% of the total industrial increase) and heavy industrial areas increased by 368 acres (32% of the total industrial increase).

Approximately half of the new heavy industrial acreage was created by rezoning former light industrial land along the Boone County Line. The other half was agriculturally zoned in 1973.

Most of the new light industrial acres were rezoned from agricultural area and are located to the south of Park 100.

Public Category

Acreage devoted for public uses experienced a small 2.0% (154 acre) decline between 1973 and 1985. This decline was attributed to a 26.7% decrease in the amount of PK-2 (park buffer). Despite this loss of park buffer acreage, public land still accounts for 27.4% of the township's total acres.

Total acres set aside for parks in the township declined by 473 during the study years. The lose of PK-1 resulted from the expansion of the Eagle Creek Airpark and from the re-definition of the districts surrounding Eagle Creek Reservoir. The boundary between the park district (PK-1) and the various residential districts was adjusted from the reservoir's high water mark out to the reservoir's average water level. This resulted in the loss of over 80 acres of park area.

The decline in the amount of PK-2 shown by this study can be explained by the way that this category was defined. Much of the 338 acre loss actually remains zoned PK-2. However, a PK-2 zoning permits many park compatable uses. As the park buffer was developed, the study removed the acreage from the PK-2 sub-category and included it in with the category that corresponded to the land's use. Another explaination for the loss of PK-2 was the actual rezoning of some area to "A" for the Eagle Creek Airpark. However, this rezoning does not represent a loss of actual park land. Most of the area rezoned was already being used as part of the airpark in 1973 making the rezoning necessary but not decreasing the area actually used for parks.

Acreage zoned for special uses remained relatively stable if you considering that much of the gain reported in this study is attributed to the rezoning of the land already being used for the airpark in 1973. However, some real gains in special use districts did occur. For example, the HD-2 district which contains St. Vincent Hospital nearly doubled in size.

Agricultural Category

Agriculturally zoned land declined by 3,902 acres or 39.4%. In 1973 agricultural districts made up 35.4% of the township's total acreage, but by 1985 they accounted for only 21.5% of the total.

The rezoning of agricultural areas resulted from increasing development pressures.

Zoning Change Summary

In summary, Pike Township experienced continued development which necessitated many zoning changes. An additional 4,056 acres of residential, commercial, and industrial zoned land were added, while 4,375 acres of park and agriculturally zoned land were rezoned for other uses. Based on this analysis, the following conclusions emerge:

- 2,246 acre increase for total Dwellings
- 1,731 acre increase for single-family dwellings
- 515 acre increase for multi-family dwellings
- 639 acre increase for Commercial
- 1,171 acre increase for Industry
- 135 acre decrease for Parks
- 338 acre decrease for Park Buffer
- 319 acre increase for special uses.
- 3,902 acre decrease for Agriculture

Table 9 and Figure 6 summarize zoning changes between 1973 and 1985.

TABLE 9

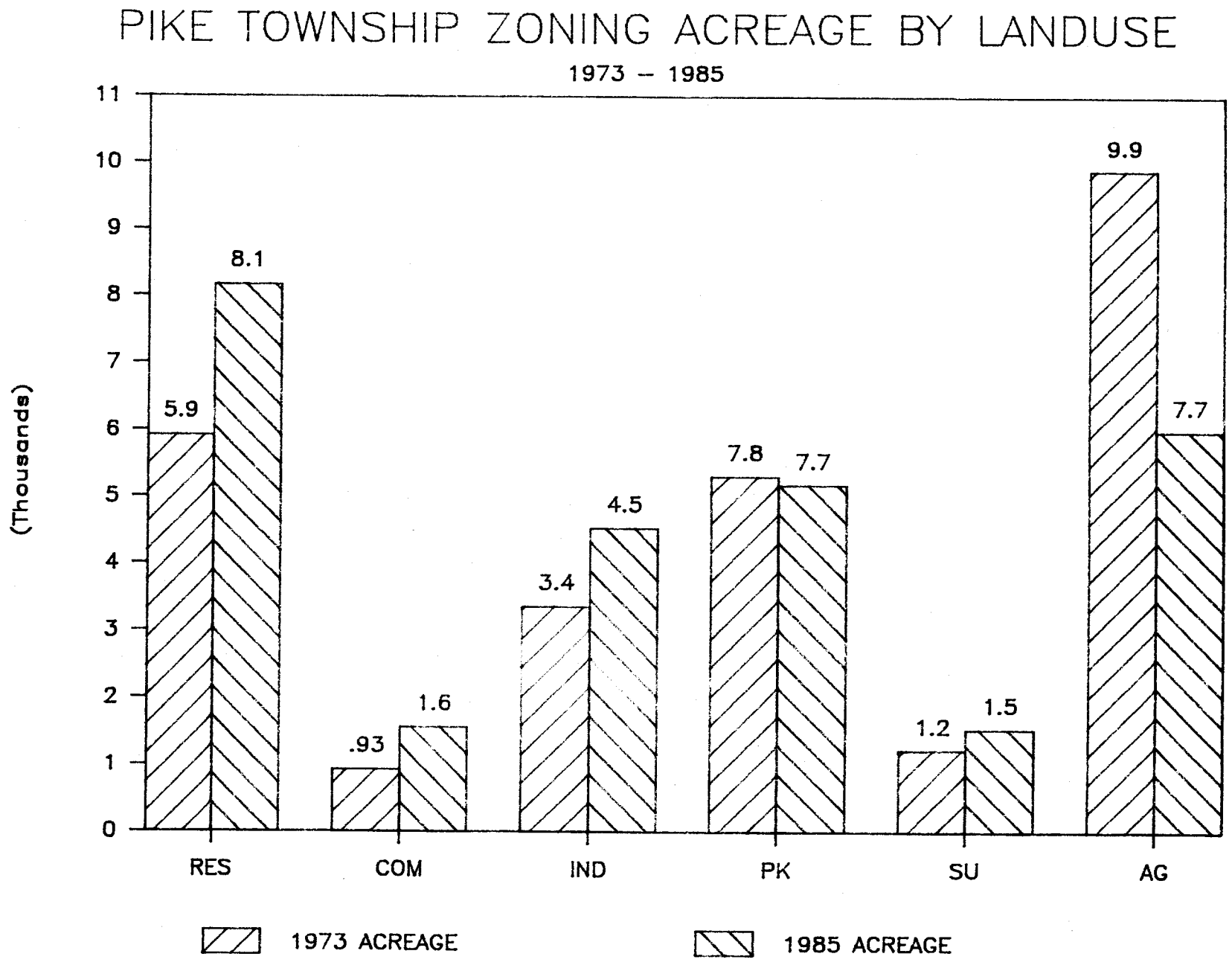
PIKE TOWNSHIP
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	4500	6231	1731	38.5%	16.1%	22.3%
b) Multi-family	1421	1936	515	36.2%	5.1%	6.9%
Total Residential	5921	8167	2246	37.9%	21.2%	29.3%
2. Commerical						
a) Office	95	388	293	308.4%	0.3%	1.4%
b) Retail	831	1177	346	41.6%	3.0%	4.2%
Total Commerical	926	1565	639	69.0%	3.3%	5.6%
3. Industrial						
a) Light	2082	2885	803	38.6%	7.5%	10.3%
b) Heavy	1282	1650	368	28.7%	4.6%	5.9%
Total Industrial	3364	4535	1171	34.8%	12.0%	16.2%
4. Public						
a) Parks	5317	5182	-135	-2.5%	19.0%	18.6%
b) Park Buffer	1268#	930*	-338	-26.7%	4.5%	3.3%
c) Special Uses	1229	1548	319	26.0%	4.4%	5.5%
Total Public	7814#	7660*	-154	-2.0%	28.0%	27.4%
5. Agriculture	9894	5992	-3902	-39.4%	35.4%	21.5%
TOTAL	27920	27920				

In 1973, 265 acres of PK-2 (park buffer) were used as part of the Eagle Creek Airpark.

* In 1985, some of the area zoned PK-2 was actually used for other activities and is therefore included in other categories. These uses and the acres of PK-2 involved were: C1, 10 acres; C3, 4 acres; D6II, 105 acres; DS, 284 acres; and SU, 62 acres; for a total of 465 acres.

FIGURE 6


PIKE TOWNSHIP ZONING ACREAGE BY LANDUSE
1973 – 1985
(Thousands)
11
10
9
8
7
6
5
4
3
2
1
0
5.9
8.1
.93
1.6
3.4
4.5
7.8
7.7
1.2
1.5
9.9
7.7
RES
COM
IND
PK
SU
AG
1973 ACREAGE
1985 ACREAGE

SUBAREA ZONING CHANGES

Subarea One

Of the five subareas in Pike Township, subarea one experienced the second highest number of rezoned acres between 1973 and 1985. During this period 1,040 acres of agriculturally zoned land (24.8% of the subarea's total agricultural land in 1973) were rezoned to residential (805 acres), commercial (228 acres) and special uses (7 acres). The loss of this agricultural area meant that this category made up only 32.6% of the subarea's total acreage in 1985 (compared to 43.4% in 1973).

The growth in residential districts was concentrated in low density single-family areas. This category experienced 54.6% growth over the 13 year time period. Multi-family districts in this subarea remained constant, and accounted for just .3% of the sub-area's total acreage and 1.2% of the subarea's total residentially zoned acres.

Commercially zoned property increased 228 acres or 950%. In 1973 there were almost no commercially zoned acres in this subarea but by 1985 commercial zoning accounted for 2.6% of the subarea's total acreage. Office area gained 199 acres, from a total absence in 1973 to 2.1% of the subarea's total acreage in 1985. Retail space also increased, more than doubling over the 13 year period.

Subarea Two

Between the years 1973 and 1985, there was a loss of 699 agriculturally zoned acres in subarea two. Most of this loss occured in the southern portion of the subarea (south of 79th Street) as land was rezoned for industrial use.

During the study years, there was a total gain of 727 acres of industrial area and by 1985, industrial zoned acres constituted 95.8% of the subarea's total acreage. Not only did heavy and light industrial districts receive relatively equal portions of the industrial growth, but they continued to account for equal portions of the subarea's total acreage with heavy industrial areas representing 48.4% of the total and light industrial areas having 47.4% of the total.

In 1973, only 64 acres were zoned residential. However, by 1985 this acreage (zoned D-3) had been rezoned to a light industrial district, leaving no residential zoning within the subarea.

Subarea Three

The primary transition in this sub-area was the loss of 59.9% of the agriculturally zoned acres, rezoned to permit residential (353 acres), commercial (102 acres) and special uses (118 acres).

TABLE 10
SUBAREA ONE
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	1474	2279	805	54.6%	15.3%	23.6%
b) Multi-family	28	28	0	0.0%	0.3%	0.3%
Total Residential	1502	2307	805	53.6%	15.5%	23.9%
2. Commerical						
a) Office	0	199	199	-----	0.0%	2.1%
b) Retail	24	53	29	120.8%	0.2%	0.5%
Total Commerical	24	252	228	950.0%	0.2%	2.6%
3. Industrial						
a) Light	3	3	0	0.0%	0.0%	0.0%
b) Heavy	0	0	0	0.0%	0.0%	0.0%
Total Industrial	3	3	0	0.0%	0.0%	0.0%
4. Public						
a) Parks	3824	3824	0	0.0%	39.6%	39.6%
b) Park Buffer	50	50	0	0.0%	0.5%	0.5%
c) Special Uses	70	77	7	10.0%	0.7%	0.8%
Total Public	3944	3951	7	0.2%	40.8%	40.9%
5. Agriculture	4190	3150	-1040	-24.8%	43.4%	32.6%
TOTAL	9663	9663				

TABLE 11
SUBAREA TWO
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	64	0	-64	-100.0%	2.0%	0.0%
b) Multi-family	0	0	0	0.0%	0.0%	0.0%
Total Residential	64	0	-64	-100.0%	2.0%	0.0%
2. Commerical						
a) Office	0	5	5	----	0.0%	0.2%
b) Retail	40	60	20	50.0%	1.3%	1.9%
Total Commerical	40	65	25	62.5%	1.3%	2.0%
3. Industrial						
a) Light	1110	1508	398	35.9%	34.9%	47.4%
b) Heavy	1213	1542	329	27.1%	38.1%	48.4%
Total Industrial	2323	3050	727	31.3%	73.0%	95.8%
4. Public						
a) Parks	0	0	0	0.0%	0.0%	0.0%
b) Park Buffer	0	0	0	0.0%	0.0%	0.0%
c) Special Uses	19	30	11	57.9%	0.6%	0.9%
Total Public	19	30	11	57.9%	0.6%	0.9%
5. Agriculture	738	39	-699	-94.7%	23.2%	1.2%
TOTAL	3184	3184				

TABLE 12
SUBAREA THREE
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	865	1130	265	30.6%	28.4%	37.1%
b) Multi-family	411	499	88	21.4%	13.5%	16.4%
Total Residential	1276	1629	353	27.7%	41.8%	53.4%
2. Commerical						
a) Office	74	111	37	50.0%	2.4%	3.6%
b) Retail	292	357	65	22.3%	9.6%	11.7%
Total Commerical	366	468	102	27.9%	12.0%	15.3%
3. Industrial						
a) Light	153	161	8	5.2%	5.0%	5.3%
b) Heavy	0	0	0	0.0%	0.0%	0.0%
Total Industrial	153	161	8	5.2%	5.0%	5.3%
4. Public						
a) Parks (F1)	26	26	0	0.0%	0.9%	0.9%
b) Park Buffer	0	0	0	0.0%	0.0%	0.0%
c) Special Uses	258	376	118	45.7%	8.5%	12.3%
Total Public	284	402	118	41.5%	9.3%	13.2%
5. Agriculture	970	389	-581	-59.9%	31.8%	12.8%
TOTAL	3049	3049				

Most of the increase in residential zoning occured in the single-family dwelling districts. This use received 265 new acres, raising its share of total residential area and subarea acreage to 69.4% and 37.1% respectively. However, multi-family districts had their share of the growth too, raising this group to 16.4% of subarea three's total acreage.

Retail and office zoned property increased at a 2:1 ratio. Despite its relatively large 36% share of the total commercial growth in this subarea, office space represented only 23.7% of the total commercial area and 3.6% of the subarea's total acreage in 1985.

Subrea three contains Pike Township's only forest district (F1). It is located south of I-465 and east of Michigan Road and it remained at 26 acres during the 13 year study period. There were no other park facilities in sub-area three in 1973 or 1985, even though the fact that this subarea contains the largest percentage of residential districts in Pike Township (53.4%) indicated the demand for such facilities in the area.

Subarea Four

This subarea of Pike Township experienced the highest number of acres rezoned between 1973 and 1985 with a substantial 743 acre increase in residentially zoned areas leading the way.

The largest increase for any one zoning district occured in D6II, (multi-family dwellings), with a gain of 300 acres. This increase helped total multi-family districts record gains 91 acres higher than those experienced in the single-family districts. Multi-family districts now make up 39.39% of the subarea's total residentially zoned areas (the highest percentage in Pike Township).

Even though the rates of commercial growth seem high (168.8% growth for office and 53.8% growth for retail), the total gain for commercial districts was only 70 acres. The 70 acre gain was just enough to increase this group's share of the subarea's total acreage from 1.3% to 2.4%.

A large 305 acre increase in light industrial districts combined with a slight 39 acre increase in heavy industrial areas to raise industrial acreage from 13.1% of the subarea's total acreage in 1973 to 18.4% in 1985. Light industrial acreage, primarily located along the Conrail Tracks running through the center of subarea four, outnumbered heavy industrial acreage by a 9:1 margin in both 1973 and 1985.

Acreage zoned for agricultural use declined by 37.7% during the study years. This decline dropped the level of agricultural land as a percentage of the subarea's total acreage from a Township high of 50.6% to only 31.5% by 1985. In 1973 the amount of agriculturally zoned acres in subarea four outnumbered the total acres of all the other use combined. However, by 1985 agriculturally zoned areas had to settle for second place behind residential areas which accounted for 36.3% of the subarea's total.

TABLE 13
SUBAREA FOUR
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	1110	1436	326	29.4%	17.1%	22.1%
b) Multi-family	511	928	417	81.6%	7.9%	14.3%
Total Residential	1621	2364	743	45.8%	25.0%	36.4%
2. Commerical						
a) Office	16	49	33	206.3%	0.2%	0.8%
b) Retail	69	106	37	53.6%	1.1%	1.6%
Total Commerical	85	155	70	82.4%	1.3%	2.4%
3. Industrial						
a) Light	785	1090	305	38.9%	12.1%	16.8%
b) Heavy	69	108	39	56.5%	1.1%	1.7%
Total Industrial	854	1198	344	40.3%	13.1%	18.4%
4. Public						
a) Parks	120	119	-1	-0.8%	1.8%	1.8%
b) Park Buffer	0	3	3	----	0.0%	0.0%
c) Special Uses	536	616	80	14.9%	8.2%	9.5%
Total Public	656	738	82	12.5%	10.1%	11.3%
5. Agriculture	3288	2049	-1239	-37.7%	50.6%	31.5%
TOTAL	6504	6504				

Subarea Five

There was a substantial 343 acre decrease in agriculturally zoned land. Most of this decrease resulted from the rezoning of about half of the agricultural area between W. 56th Street and W. 46th Street. By 1985, a large section of this area had been rezoned for residential use.

This subarea saw a movement toward increased single-family acreage. Of the 409 additional residential acres, 399 or 97.6% were in single-family districts. All of these single-family gains occured in the lowest density sub-categories of D-1, D-2, and DS. At the same time, higher density single-family and multi-family districts such as D-4, D-6, and D-7 experienced losses. Overall, multi-family districts, although increasing in size, still only accounted for 25.8% of the subarea's residential acreage in 1985.

Acreage zoned for commercial use also increased. Most of this increase (91%) was caused by the expansion of the regional commercial center at Lafayette Road and W. 38th Street.

Even though special use districts increased by 103 acres during the study period, the decline in park land (described in Section II of this report) caused a net loss of 372 "public" acres in this subarea. Despite this 12.8% decline in publicly zoned acres, public districts still accounted for 46% of the subarea's total acreage in 1985 and were by far the largest zoning category in the subarea.

TABLE 14

SUBAREA FIVE
ZONING CHANGES
1973 - 1985
(ACRES)

Zoning Categories	1973	1985	Absolute Change	% Change	1973 % Total	1985 % Total
1. Residential						
a) Single/2 Family	987	1386	399	40.4%	17.9%	25.1%
b) Multi-family	471	481	10	2.1%	8.5%	8.7%
Total Residential	1458	1867	409	28.1%	26.4%	33.8%
2. Commerical						
a) Office	5	24	19	380.0%	0.1%	0.4%
b) Retail	406	601	195	48.0%	7.4%	10.9%
Total Commerical	411	625	214	52.1%	7.4%	11.3%
3. Industrial						
a) Light	31	123	92	296.8%	0.6%	2.2%
b) Heavy	0	0	0	0.0%	0.0%	0.0%
Total Industrial	31	123	92	296.8%	0.6%	2.2%
4. Public						
a) Parks	1347	1213	-134	-9.9%	24.4%	22.0%
b) Park Buffer	1218#	877*	-341	-28.0%	22.1%	15.9%
c) Special Uses	346	449	103	29.8%	6.3%	8.1%
Total Public	2911#	2539*	-372	-12.8%	52.7%	46.0%
5. Agriculture	708	365	-343	-48.4%	12.8%	6.6%
TOTAL	5519	5519				

In 1973, 265 acres of PK-2 (park buffer) were used as part of the Eagle Creek Airpark.

* In 1985, some of the area zoned PK-2 was actually used for other activities and is therefore included in other categories. These uses and the acres of PK-2 involved were: C1, 10 acres; C3, 4 acres; D6II, 105 acres; DS 284 acres; and SU, 62 acres; for a total of 465 acres.

CHAPTER 5

LAND USE AND ZONING COMPARISONS

METHODOLOGY

Three files (or data bases) are compared in this section. They are:

1) General land use plan taken from the Marion County Comprehensive Plan which recommends a land use pattern for Pike Township;
2) Current zoning ordinance which indicates zoning classification for each land parcel in the township; and
3) Land use inventory which shows the actual land uses.

The Marion County Comprehensive Plan contains a general land use plan for each township. This section compares this general Pike Township land use plan to the land use and zoning inventories previously discussed in this study. These comparisons will offer insight into how well the objectives of the general land use plan are being met.

Unfortunately, exact comparisons between the Comprehensive Plan, Land Use Inventory and Zoning Ordinance cannot be made since land use classifications and boundary lines differ among them. For example, the Zoning Ordinance contains two agricultural districts that have some correlation to the vacant land category contained in the land use inventory. However, the Comprehensive Plan which is a policy guide that assumes full development, contains no vacant land or agricultural categories for comparisons.

The boundary line problem principally affects the vacant land category of the Land Use Inventory when compared to the zoning districts. Zoning district's boundaries generally conform to property lines. The land use inventory was prepared from aerial photography that does not identify property lines. As a result, general estimates were made in the land use inventory regarding how much actual land area was utilized by each use. This method generated high vacant land use numbers for the land use inventory.

Recognizing such limitations inherent in any analysis of land use employing these three information bases, it is, however, still possible to offer the generalized comparisons that follow.

TOWNSHIP COMPARISONS

It is important to reemphasize that the Marion County Comprehensive Plan is a policy guide for the development of the community. As such, its purpose is to provide an overall guide to development that optimizes use of the land area while safeguarding the private interests of residents as well as the well-being of the community at large. The Plan is only a policy guide and it does not mandate new development nor does it require that all new development conform to the Plan.

Residential

In 1985, residentially developed land accounted for 4,118 acres or (14.7%) of the total land area of Pike Township. At the same time, 8,167 acres (29.3% of total area) were zoned for residential purposes. Thus, the Comprehensive Plan recommends almost twice (51.4% of the total township) as much residential development as existed in 1985. The development of new residential properties will occur primarily on land that is currently vacant in the land use inventory study, and designated as agricultural in the zoning inventory.

The composition of residential land uses remains fairly constant when comparing the land use inventory, zoning inventory and the Comprehensive Plan. Eighty percent of residential land area was used for single-family and two-family units in 1985. In that same year, 76% of the total area zoned for residential use was zoned for single-family and two-family units. The residential composition as designated in the Comprehensive Plan is nearly the same, with 77.5% of the total area planned for single and double family residential purposes.

Commercial

Only 3.7% of the total land area of Pike Township was used for commerical purposes in 1985. Of these 1,027 acres, 829 acres were devoted to retail uses. The study of 1985 zoning classifications indicates that 5.6% of the township was zoned for commerical purposes. Of these 1565 commercially-zoned acres, 1,177 were zoned for retail use. The Comprehensive Plan devotes 6.2% of Pike Township to commerical uses not differenting between retail and office uses.

The comparison of office and retail properties in the previous paragraph is not altogether adequate for the purposes of this study, since it does not take into account the amount of floor space devoted to each use. For example, a one story building and a twelve story building occupying the same amount of acreage would be considered as equivalent in the land use inventory. The section on Projections Chapter 9 will provide a comparison of floor space used for office versus retail purposes.

Industrial

The most significant difference between land use, zoning and the Comprehensive Plan occurs in the industrial and manufacturing category. In 1985, actual industrial uses accounted for 1,257 acres or 4.5% of the total land area of Pike Township. At that same time, 4,535 acres were zoned for industrial use, which is actually 550 more acres than are planned for the township according to the Comprehensive Plan.

Industrial acres that were classified as light industrial accounted for 62% of total industrial area used, and 64% of total area zoned in 1985. The total area planned for light industrial purposes accounted for 60% of the total industrial portion of the Comprehensive Plan.

Other

The great majority of land area in this "other" category is constituted by the Eagle Creek Reservior and Eagle Creek Park. Included in the category is land used or planned for public or semi-public purposes (schools, churches, etc.) and streets. Properties zoned for special uses were also included in this category.

Both the land use study and the analysis of the Comprehensive Plan show that between 4,750 and 4,800 acres of land are contained within Eagle Creek Park. (This comparison also would indicate that the boundary of the park is planned to remain the same.) In 1985, a total of 6,112 acres were zoned for parks. The difference between the acres used/planned for parks and the acres zoned for parks can be attributed to two factors. First, about 900 acres of "park buffer" land are included in the zoning total. Areas designated as "park buffer" are intended to be used for non-park purposes but mandate added building restrictions to ensure compatibility with park usages. Secondly, some of the flood plain that is adjacent to the park was classified as park land for zoning purposes.

Agriculture

In 1985, 5,992 acres (or 22%) of the total area of Pike Township was zoned for agriculture. The Comprehensive Plan, which assumes full development of the township in urban uses, does not designate any land area for agricultural purposes.

Vacant

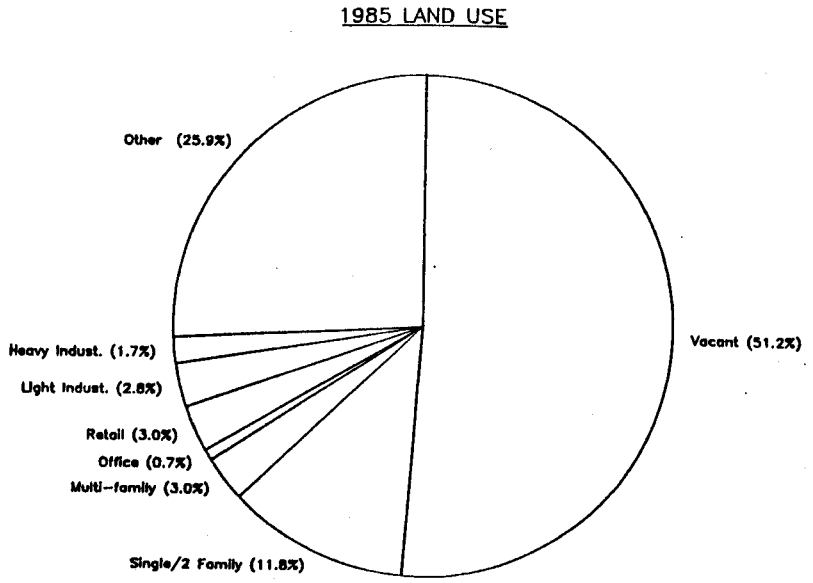
According to the land use study, 51.2% of Pike Township was vacant in 1985. This includes all acres that were being used for agricultural purposes. The Comprehensive Plan, although it assumes full development, contains 691.5 acres of vacant land. This area, which is 2.5% of Pike Township, is comprised of floodplain.

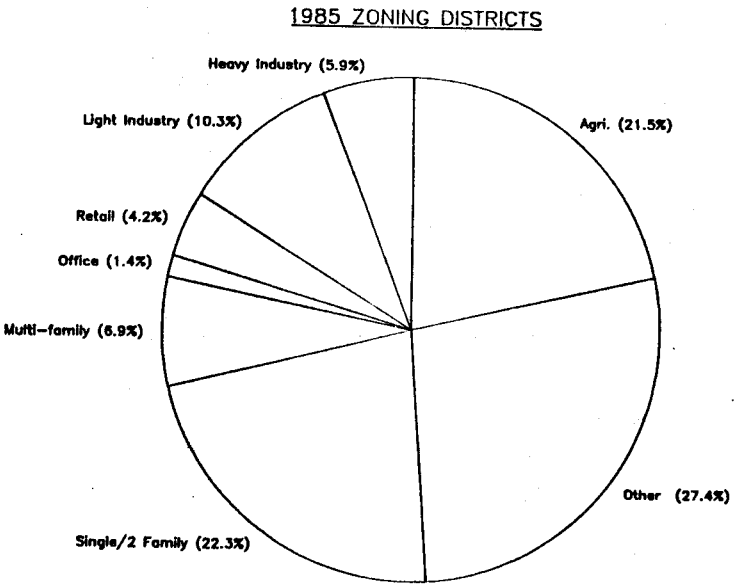
TABLE 15
PIKE TOWNSHIP
COMPARISONS

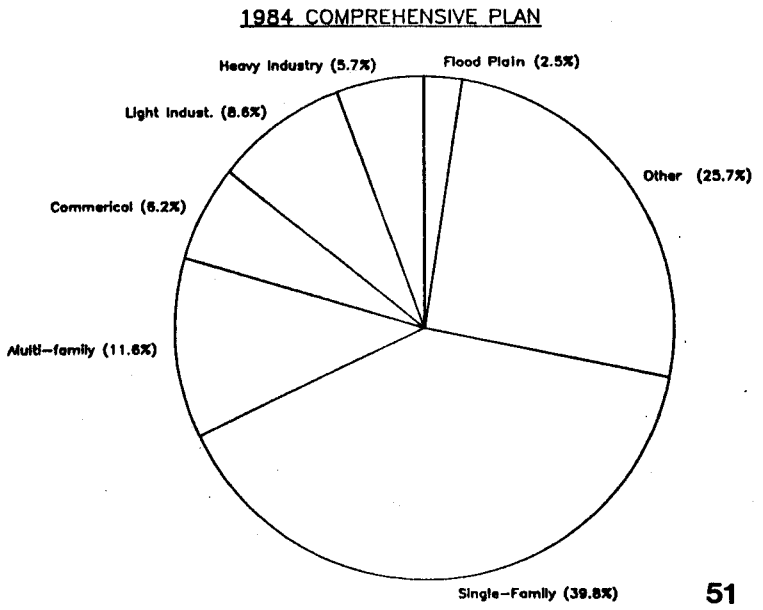
	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	6231	22.3%	3292.3	11.8%	11116.0	39.8%
b) Multi-family	1936	6.9%	825.5	3.0%	3232.5	11.6%
Total Residential	8167	29.3%	4117.8	14.7%	14348.5	51.4%
2. Commerical						
a) Office	388	1.4%	198.5	0.7%	----	----
b) Retail	1177	4.2%	828.8	3.0%	----	----
Total Commerical	1565	5.6%	1027.3	3.7%	1741.0	6.2%
3. Industrial						
a) Light	2885	10.3%	786.3	2.8%	2401.0	8.6%
b) Heavy	1650	5.9%	471.0	1.7%	1583.0	5.7%
Total Industrial	4535	16.2%	1257.3	4.5%	3984.0	14.3%
4. Other						
Total Other	7660	27.4%	7223.5	25.9%	7185.0	25.7%
5. Agriculture	5992	21.5%				
6. Vacant Lands			14294.1	51.2%		
(Urban Conservation)					691.5	2.5%
TOTAL	27920		27920.0		27920.0	

FIGURE 7

Pike Township Comparison: Existing Land Use, Existing Zoning, and Comprehensive Plan Recommendations







SUBAREA COMPRISONS

Subarea One

In total acres, Subarea One is the largest of the five subareas. The most dominant feature of the 9663 acres in Subarea One is Eagle Creek Park. The park comprises thirty-eight percent of the subarea according to the 1985 land use inventory. A similar portion (39.6%) was zoned for the park according to the zoning inventory.

Vacant land accounted for 46.9% of land use in the subarea according to the land use file, while agricultural purposes accounted for 32.6% of the land area in the zoning ordinance. In the Comprehensive Plan, the vacant/agricultual land is primarily assigned to development as single-family residential and amounts to 47.8% of the land area. In 1985, residential land use was only 9.2% of the total land area in Subarea One. At the same time, land zoned residential included 23.9% of the subarea. The Comprehensive Plan recommends 49.3% of the total subarea for residential purposes. Ninety-seven percent of the residential category is planned for single and two-family dwellings.

Subarea Two

Analysis of the land use in subarea two indicates that in 1985 61.5% of the 3184 acres in the subarea was vacant and 29.0% of the subarea was used for industrial purposes. Industrial zoning districts dominate the subarea at 95.8%. Likewise, the Comprehensive Plan designates 90% of the subarea for industrial purposes.

A part of the difference between land use acre amounts and the zoning inventory acre amount is attributed to the inventory method of setting the land use boundaries by using aerial photography. There appears to be enough existing land zoned to accommodate all the industrial development recommended in the land use plan Based upon these measurements continued approval of industrial rezoning applications in this subarea will distort the land use mix recommended in the Comprehensive Plan.

Only 27 acres were used for residential purposes in 1985 and no land was zoned residential. Furthermore, the Comprehensive Plan devotes no land to residential purpose. The land that was used as residential is comprised of farm houses in agricultural districts.

Subarea Three

Comparing land use and zoning to the Comprehensive Plan in Subarea Three shows general conformance. In 1985, 53.4% of this subarea was zoned for residential use. This compares to 31.9% of the subarea used for residential purposes and 63.5% planned for residential purposes.

TABLE 16

SUBAREA ONE
COMPARISONS

	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	2279	23.6%	885.3	9.2%	4618.5	47.8%
b) Multi-family	28	0.3%	0.0	0.0%	141.0	1.4%
Total Residential	2307	23.9%	885.3	9.2%	4759.5	49.2%
2. Commerical						
a) Office	199	2.1%	0.0	0.0%	----	----
b) Retail	53	0.6%	4.5	0.0%	----	----
Total Commerical	252	2.7%	4.5	0.0%	30.5	0.3%
3. Industrial						
a) Light	3	0.0%	4.8	0.0%	0.0	0.0%
b) Heavy	0	0.0%	0.0	0.0%	0.0	0.0%
Total Industrial	3	0.0%	4.8	0.0%	0.0	0.0%
4. Other	3951	40.8%	4238.0	43.9%	4873.0	50.4%
5. Agriculture	3150	32.6%				
6. Vacant Lands			4530.4	46.9%		
TOTAL	9663		9663.0		9663.0	

TABLE 17

SUBAREA TWO
COMPARISONS

	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	0	0.0%	25.5	0.8%	0.0	0.0%
b) Multi-family	0	0.0%	1.5	0.0%	0.0	0.0%
Total Residential	0	0.0%	27.0	0.8%	0.0	0.0%
2. Commerical						
a) Office	5	0.2%	36.5	1.1%	----	----
b) Retail	60	1.9%	39.3	1.2%	----	----
Total Commerical	65	2.1%	75.8	2.4%	119.0	3.7%
3. Industrial						
a) Light	1508	47.4%	476.0	14.9%	1345.0	42.2%
b) Heavy	1542	48.4%	446.0	14.1%	1522.0	47.8%
Total Industrial	3050	95.8%	922.0	29.0%	2867.0	90.0%
4. Other	30	0.9%	200.5	6.3%	198.5	6.2%
5. Agriculture	39	1.2%				
6. Vacant Lands			1959.2	61.5%		
TOTAL	3184		3184.0		3184.0	

TABLE 18

SUBAREA THREE
COMPARISONS

	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	1130	37.1%	729.0	23.9%	1223.0	40.1%
b) Multi-family	499	16.4%	242.5	8.0%	714.0	23.4%
Total Residential	1629	53.5%	971.5	31.9%	1937.0	63.5%
2. Commerical						
a) Office	111	3.6%	139.0	4.6%	----	----
b) Retail	357	11.7%	230.5	7.6%	----	----
Total Commerical	468	15.3%	369.5	12.2%	664.5	21.8%
3. Industrial						
a) Light	161	5.3%	11.0	0.4%	21.0	0.7%
b) Heavy	0	0.0%	10.0	0.3%	0.0	0.0%
Total Industrial	161	5.3%	21.0	0.7%	21.0	0.7%
4. Other	402	13.2%	292.0	9.6%	726.5	23.8%
5. Agriculture	389	12.8%				
6. Vacant Lands			1395.5	45.8%		
TOTAL	3049		3049.0		3049.0	

The other significant category of use in Subarea Three was commerical. In 1985, 15.3% of the subarea was zoned commerical. At the same time, 12.1% of the subarea was used for commerical purposes. The Comprehensive Plan devotes 21.8% of the total land area of this subarea for commerical purposes.

Comparisons of the industrial classifications show a difference between the total area zoned industrial and the total area used and planned for that use. The 140 acre difference is explained by the method in which zoning districts were assigned to the industrial category. Area zoned CS (special commerical) were assigned to the industrial category because industrial uses are allowed to exist in that district. In Subarea Three, the CS district is primary used for commerical purposes.

Subarea Four

The land use inventory indicates that in 1985, 62.9% of the 6504 acres in Subarea Four were classified as vacant. Residential uses accounted for 16.2% of the subarea while commerical and industrial classifications accounted for 3.3% and 4.8% of the subarea, respectively. In comparison the zoning inventory indicated that 31.5% of the subarea was zoned agricultural, 36.3% was zoned residential, 2.4% was zoned commerical and 18.4% was zoned industrial.

The Comprehensive Plan shows the development of the agricultural/vacant land into mostly residential. 68.9% of the Plan for Subarea Four is devoted to residential use. The other significant classification in the subarea plan is industrial at 16.9% of the total subarea.

Subarea Five

Eagle Creek Park is a significant part of Subarea Five. In 1985, 17.% of the land use inventory and 22% of the zoning inventory were contain within the Park. As you will recall from the discussion of Eagle Creek in Subarea One, part of the park is zoned as park-buffer which allows for compatiable uses. This conversion of park-buffer into compatiable uses is indicated in the difference between the size of the park in 1985 and the Comprehensive Plan.

Residential uses accounted for 21.4% of the total land use and 33.8% of the total zoned area in 1985. The Comprehensive Plan shows that residential portion of the subarea area growing to 57.4% of the total subarea.

TABLE 19

SUBAREA FOUR
COMPARISONS

	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	1436	22.1%	754.0	11.6%	2929.5	45.0%
b) Multi-family	928	14.3%	297.0	4.6%	1551.5	23.9%
Total Residential	2364	36.4%	1051.0	16.2%	4481.0	68.9%
2. Commerical						
a) Office	49	0.8%	11.5	0.2%	----	----
b) Retail	106	1.6%	201.5	3.1%	----	----
Total Commerical	155	2.4%	213.0	3.3%	159.5	2.4%
3. Industrial						
a) Light	1090	16.8%	294.5	4.5%	1035.0	15.9%
b) Heavy	108	1.7%	15.0	0.2%	61.0	0.9%
Total Industrial	1198	18.5%	309.5	4.7%	1096.0	16.8%
4. Other	738	11.3%	837.0	12.9%	767.5	11.8%
5. Agriculture	2049	31.5%				
6. Vacant Lands			4093.5	62.9%		
TOTAL	6504		6504.0		6504.0	

TABLE 20

SUBAREA FIVE
COMPARISONS

	1985 ZONING		1985 LAND USE		COMPREHENSIVE PLAN	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
1. Residential						
a) Single/2 Family	1386	25.1%	898.5	16.3%	2344.5	42.4%
b) Multi-family	481	8.7%	284.5	5.2%	826.0	15.0%
Total Residential	1867	33.8%	1183.0	21.5%	3170.5	57.4%
2. Commerical						
a) Office	24	0.4%	11.5	0.2%	----	----
b) Retail	601	10.9%	353.0	6.4%	----	----
Total Commerical	625	11.3%	364.5	6.6%	767.5	13.9%
3. Industrial						
a) Light	123	2.2%	0.0	0.0%	0.0	0.0%
b) Heavy	0	0.0%	0.0	0.0%	0.0	0.0%
Total Industrial	123	2.2%	0.0	0.0%	0.0	0.0%
4. Other	2539	46.0%	1656.0	30.0%	1581.0	28.6%
5. Agriculture	365	6.6%				
6. Vacant Lands			2315.5	42.0%		
TOTAL	5519		5519.0		5519.0	

CHAPTER 6
PIKE TOWNSHIP TRANSPORTATION SYSTEM

EXISTING TRANSPORTATION SERVICES

A City service that is an extremely important factor in determining the type and density of development is transportation. In high growth areas, there will be increased demands for providing greater levels of transportation services. This chapter describes the transportation system in Pike Township, including:

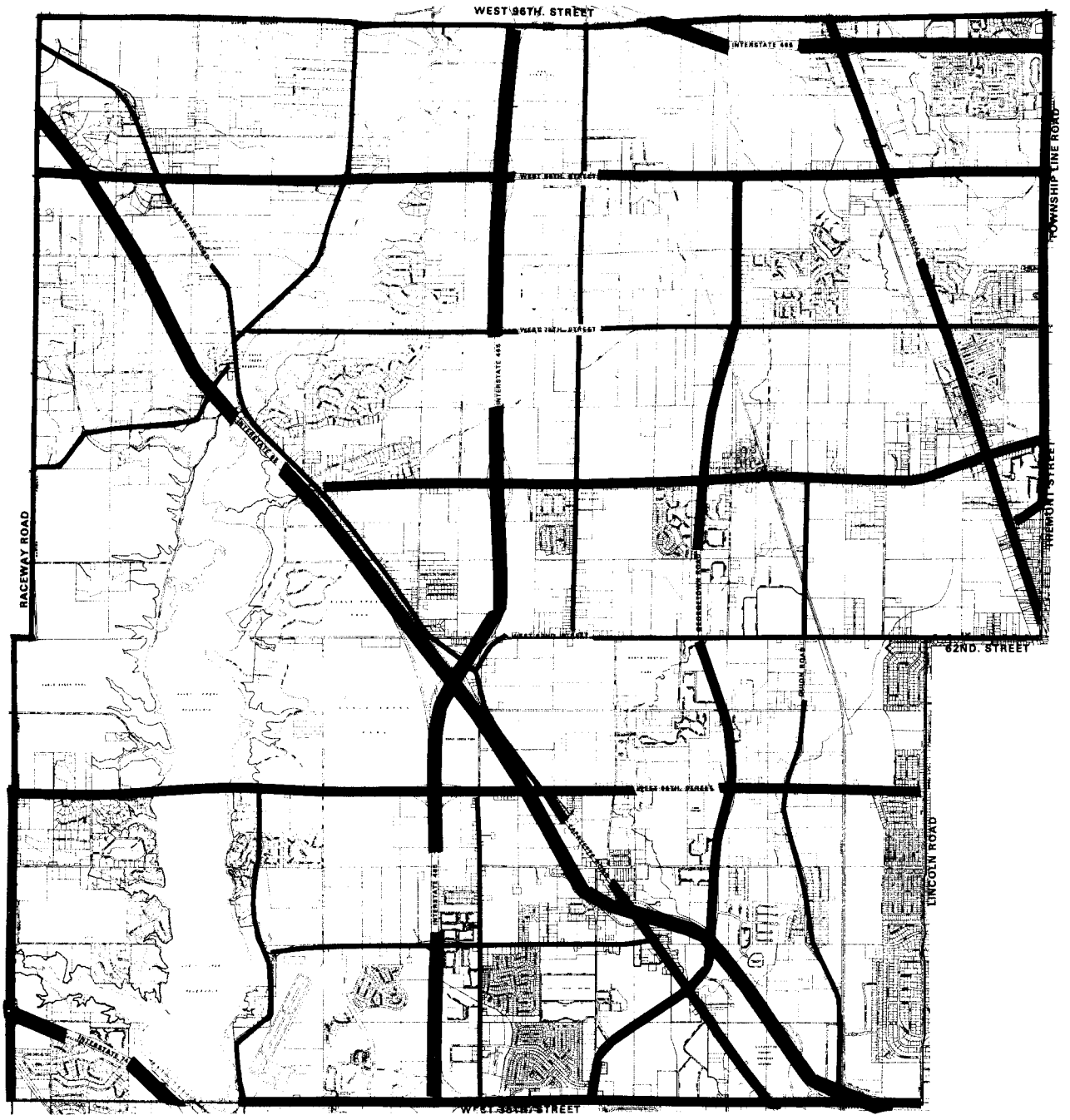
- Description of the existing facilities
- Needs assessment
- Summary of planned improvements.

DESCRIPTION OF EXISTING FACILITIES

Existing Street System

One way to understand the existing transportation network in Pike Township is to examine its streets functional classification. Functional classification is the grouping of roadways in the planning area into an integrated system identified by their principal uses in the overall total transportation system. It is based upon the concept that each street, road, and highway have a predominant purpose ranging from mostly access (such as streets in residential subdivisions) to primarily through movements (such as freeways). Map 2 shows the 1983 Existing Functional Classification System for Pike Township. Table 21 provides definitions of the classification categories.

The city's street system adheres to a combination of a grid system containing rectangular blocks and a spoked-wheel pattern of streets converging on the downtown area. Because of topographic features indigenous to Pike Township the development of an evenly spaced grid system is not possible--Eagle Creek Reservior occupies the western portion of the Township and Interstates I-65 and I-465 futher complicate the development of evenly spaced arterials.



PIKE TOWNSHIP PLANNING STUDY

MAP 2

1983 EXISTING FUNCTIONAL STREET CLASSIFICATIONS

FREEWAYS

Primary Arterial

Secondary Arterial

N

Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

TABLE 21

Indianapolis Functional Classification

1)	Freeways -	Divided highways with full control of access and grade-separated interchanges. Primary function is movement of traffic in particular long trips made within and through the study area. These roads are designed for high-speed operation (50-60 MPH) and require wide rights-of-way ranging up to 300 ft.
2)	Expressways -	Access controlled routes with design and operational characteristics similar to freeways, with some intersections at-grade. Access control is usually obtained by using medians, frontage roads, and selected location of intersections. These roads are designed for relatively high speed operation (45 MPH) and require rights-of-way ranging up to 200 ft.
3)	Primary Arterials -	These routes have greater traffic carrying capabilities and higher levels of service than other at-grade routes to channelize major traffic movements. They either carry higher volumes than other adjacent routes or have the potential to carry higher volumes. They serve as connecting routes to the freeway system and to other primary arterials, and are oriented primarily to moving traffic rather than serving abutting land-use. Rights-of-way may range up to 120 ft.
4)	Secondary Arterials -	These routes serve a higher percentage of short trips than do primary arterials. They carry significant volumes and are needed to provide system continuity. Right-of-way widths may range up to 100 ft.
5)	Collectors -	Primary function is to collect traffic from an area and move it to an arterial while also providing substantial service to abutting land-use.
6)	Local Streets -	Comprise the remainder of the surface streets and have the primary function of service to abutting land-use.

Public Transit

The Indianapolis Public Transportation Corportation/METRO currently operates eleven (11) bus routes which service major residential, commercial and retail centers within Pike Township. These routes are indentified in Table 22. Of the eleven routes provided in the township, four are express routes and seven are local. Express routes, which operate only Monday through Friday, principally provide service for commuters in the township to the Central Business District (CBD). Local routes operate each day of the week and on holidays. In addition local routes operate more frequently than the express services. There are two Park-and-Ride locations in Pike Township. The Park-and-Ride system was designed so individuals not having immediate access to an express route in their area can utilize METRO services by parking their cars at a specified location to board the bus.

TABLE 22

Indianapolis Public Transportation Corporation/
Metro Routes in Pike Township

Route No.	Route Name	(1) Vehicle Miles/ Route	(2) Roadway Miles/ Route
Local Routes			
13	West 10th Street	0.95	0.75
15	Riverside	10.20	6.63
25	West 16th Street/Speedway	2.46	1.70
28	St. Vincent Hospital	0.36	0.19
34	Michigan Road	10.80	6.63
37	Park 100	17.05	11.36
Express Routes			
38	Lafayette Square	3.03	1.33
47	Harcourt Express	2.84	1.42
53	Eagle Creek Express	9.66	4.83
55	Georgetown Express	12.22	6.11
57	Speedway Express	0.956	0.75
	TOTAL	70.54	41.70

(1) Vehicle Miles/Route - the number of miles which the transit vehicle travels on a route.

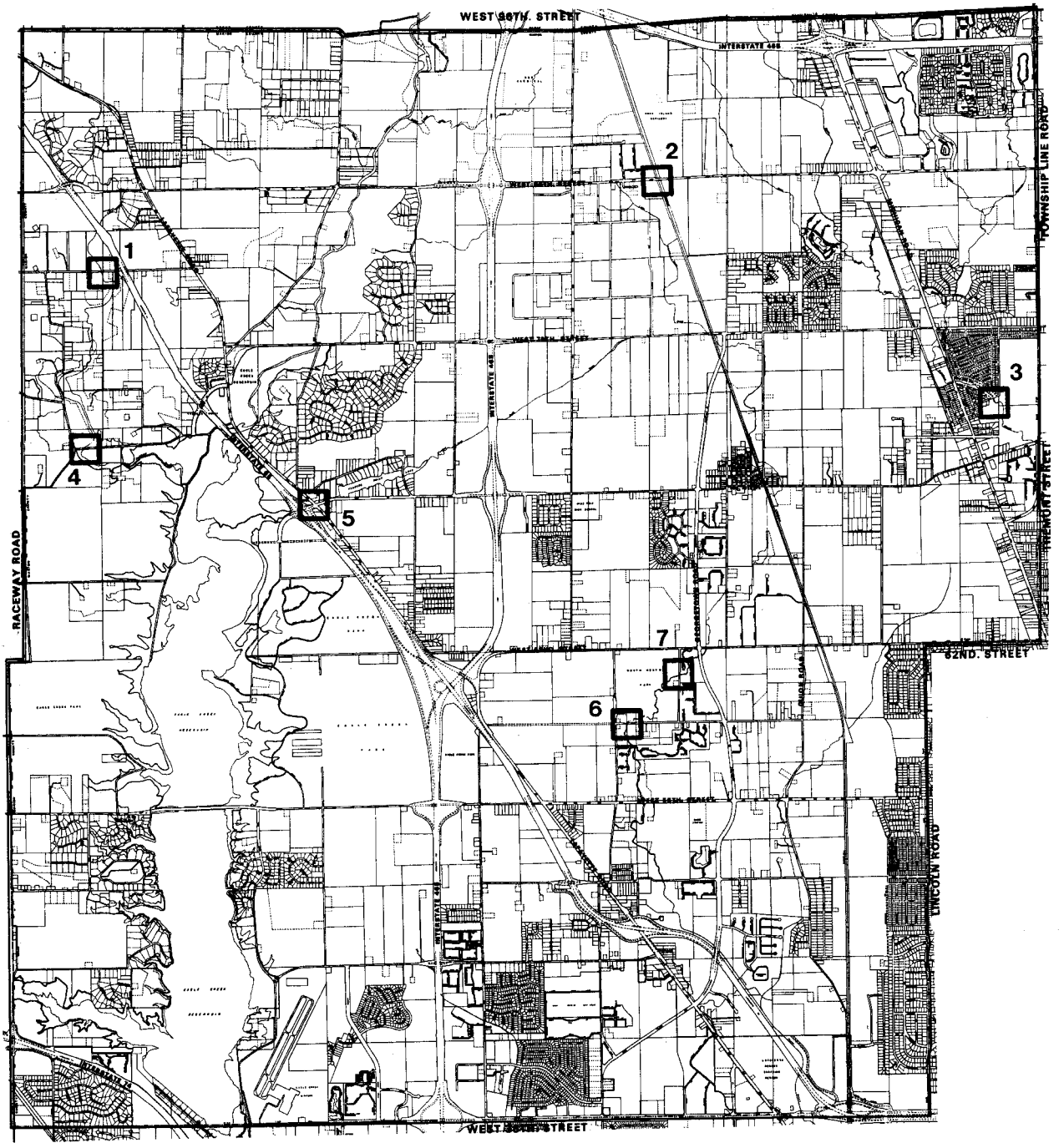
(2) Roadway Miles/Route - the number of roadway miles which comprise a transit route. (This figure represents the linear mileage of each route used to calculate transit coverage within a given area).

Bridges

Pike Township has a total of 41 bridges. Sufficiency ratings are used to describe the structural condition of bridges. The scale of sufficiency ratings for bridges ranges from 0-100: Zero (0) being the worst possible condition and 100 being the optimal condition. In Pike Township there are 28 bridges with sufficiency ratings of 75.00 or higher, 7 bridges with sufficiency ratings between 50.00 to 75.00, and 7 bridges below 50.00 (see Map 3).

High Accident Locations

Pike Township has seven high accident intersections as indicated in Table 23. Rankings are determined by dividing the annual total number of accidents by the estimated number of vehicles entering the intersection. The accident rate is based upon the annual total number of accidents and the total number of vehicles entering the intersection for each intersection. Approximately 130 high accident intersections are monitored in Marion County. For planning purposes, intersections having an accident rate greater than 2.00 are identified as a "trouble spots" needing further study. In 1986, 48 Marion County intersections had an accident rate greater than 2.00. Seven of these are in Pike Township. As these locations are identified, they can be examined to determine what measures can be employed to increase safety. Measures such as adding left turn lanes or left turn signals, adding appropriate signage, or providing new lighting may lead to an appreciable reduction in the accident rate.



PIKE TOWNSHIP PLANNING STUDY

MAP 3

BRIDGES WITH SUFFICIENCY RATING LESS THAN 50

Map #	Location
1.	Fishback Creek/82nd St.
2.	W. 86th St./Conrail
3.	Crooked Creek/76th St.
4.	Fishback Creek/Wilson Rd.
5.	Bushes Run/Laf. Rd.
6.	Little Eagle Creek/59th St.
7.	Little Eagle Creek/Hollingworth Rd.

N

Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

TABLE 23

Pike Township
High Accident Intersections, 1986

Ranking (1)	Intersection	Accident Rate (2)	Total Accidents	LOS (3)
8	Michigan Rd. at Westlane	3.53	44	C
15	Moller Rd. at 38th	2.99	42	E
23	High School at 38th	2.61	40	E
31	Lafayette Rd. at 38th	2.30	44	F
35	Township at 86th	2.24	20	E
40	Michigan at 86th	2.16	31	E
45	Georgetown at 56th	2.05	17	D

(1) Ranking of the first 48 intersections > 2.00 Accident Rate.
(2) Total accidents per million annual entering vehicles.
(3) Identified level-of-service (LOS) for roadway.

NEEDS ASSESSMENT

The management of the Indianapolis transportation system is based on the allocation of limited resources -- there are more needs associated with the transportation system than money available to make all the desired improvements. The City's transportation planning process is to assess the needs associated with the transportation system and develop a systematic program to allocate the limited financial resources.

Description of Transportation Planning Process

The Indianapolis transportation projects are documented in the Indianapolis Regional Transportation Improvement Program (IRTIP) which is prepared annually. It identifies a five-year program of proposed transportation projects in the Indianapolis urbanized area.

The transportation planning program in the Indianapolis area is made up of two major elements: Long-Range Transportation Planning and Transportation System Management Planning (TSM) which addresses short-range transportation improvements.

The Long-Range Transportation Planning element prepares and maintains the plan for transportation needs twenty years into the future, and recommends the needed roadway improvements including street widenings, bridges, and new roadways. Placing a recommended roadway improvement project into the official plan does not ensure its construction. However, in order for the improvement to be constructed using federal funds, it must be included as part of the official plan. Actual construction of a project is subject to funding availability, impact study, and community review.

The Transportation System Management or short-range planning element addresses low-cost projects designed to obtain maximum productivity from the existing transportation system. Projects associated with this element include intersection improvements, signage and lighting improvements, modernizing traffic signals and operational changes such as restrictions for on-street parking.

Projects planned for both the short and long-range transportation planning programs are contained in the "Planned Improvements" section. In this Needs Assessment section, only the long-range planning process is discussed.

When planning the City's roadway system it is necessary to analyze both the physical configuration of the street network and the roadways current and future traffic in relationship to the roadways carrying capacity. The carrying capacity is expressed in a measure of levels-of-service.

Street Network

The Indianapolis roadway network represents a combination of two basic configurations -- a spoked-wheel pattern and a basic grid system of regular squares or rectangular blocks. Ideally there would be equal spacing between each roadway in a grid pattern.

Planning new and improving existing roads is done with consideration of the need to maximize the efficiency of the street network configuration. By improving the street pattern, there will be an increased continuity of service in the system resulting in increased accessibility, increased safety, reduced travel time and reduced energy consumption.

Levels of Service

Levels of service (LOS) are qualitative measurements of congestion based on the operational characteristics of a roadway in terms of travel speed and delays. Levels-of-service are used to identify deficiencies in the roadway network. Six levels of service are defined and used to analyze transportation facilities. The six levels of service are given letter designations from A to F, with level-of-service F the worst. A level-of-service E or F would indicate that a roadway segment is carrying more traffic than it is designed to carry. Either the network would need to be improved to attract traffic off of this segment or the segment itself would need to be improved to increase its capacity. This could be accomplished by adding additional travel lanes or making operational improvements such as signal timing improvements.

Level-of-Service Definitions - In general, the various levels of service are defined as follows:

1. Level-of-service "A" represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

2. Level-of-service "B" is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

3. Level-of-service "C" is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

4. Level-of-service "D" represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

5. Level-of-service "E" represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

6. Level-of-service "F" is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level-of-service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level-of-service F is an appropriate designation for such points.

These definitions are taken from the Highway Capacity Manual, Special Report 209, the Federal Highway Administration. Photographs in Figure 8 visually illustrate the definition for each of the six levels of service categories for a freeway facility.

FIGURE 8

BASIC FREEWAY SEGMENTS

Illustration 3-5. Level-of-service A.

Illustration 3-8. Level-of-service D.

Illustration 3-6. Level-of-service B.

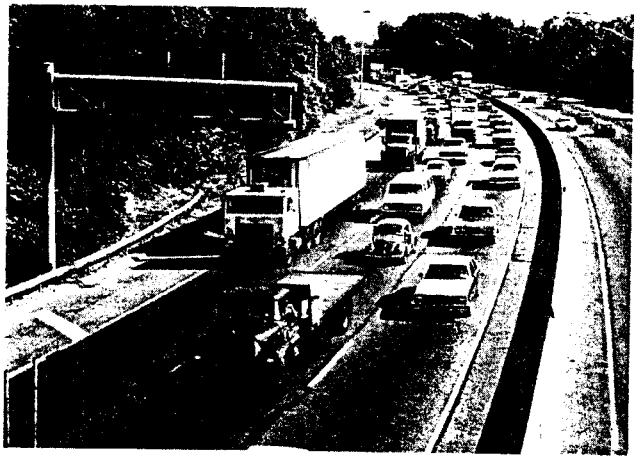


Illustration 3-9. Level-of-service E.

Illustration 3-7. Level-of-service C.

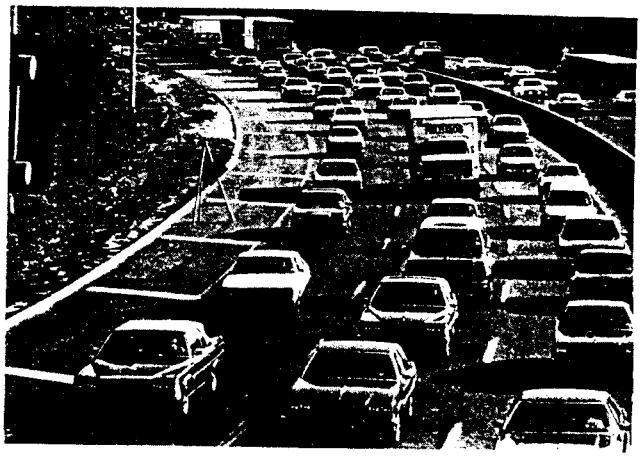


Illustration 3-10. Level-of-service F.

Forecasting Future Demand

The most complex part of the urban transportation planning process is the forecasting of future travel demand. Essentially, this process involves establishing a relationship between travel characteristics and land use activities such as housing and employment. The process relies on mathematical computer models of trip generation, trip distribution, mode choice and trip assignment, which are summarized as follows:

Trip generation is the process of estimating the number of trips generated by various urban activities. For example, the number of trips that are generated by a shopping center is quite different from the number of trips generated by a residential subdivision.

The trip distribution model determines how the beginning and endings of these trips are linked with one another.

The mode choice model predicts how travel will be split between automobiles and bus service.

The trip assignment model determines the paths the trips will take. For example, if a trip goes from a suburb to downtown, the model predicts which specific roads or transit routes are used.

These modeling procedures are used to forecast future travel demand and thereby identify future deficiencies in the street system. The overall model generates these forecasts in terms of the volume of traffic in relation to roadway capacity. In the model, streets are divided into street segments. Each street segment in Pike Township runs from one intersection to another intersection. The total number of existing 1986 segments used in the model were 108 with a number of segments increasing to 114 by 2005. This increase is due to the proposed construction of 6 new roadway segments by 2005.

Pike Township Roadway Network Performance

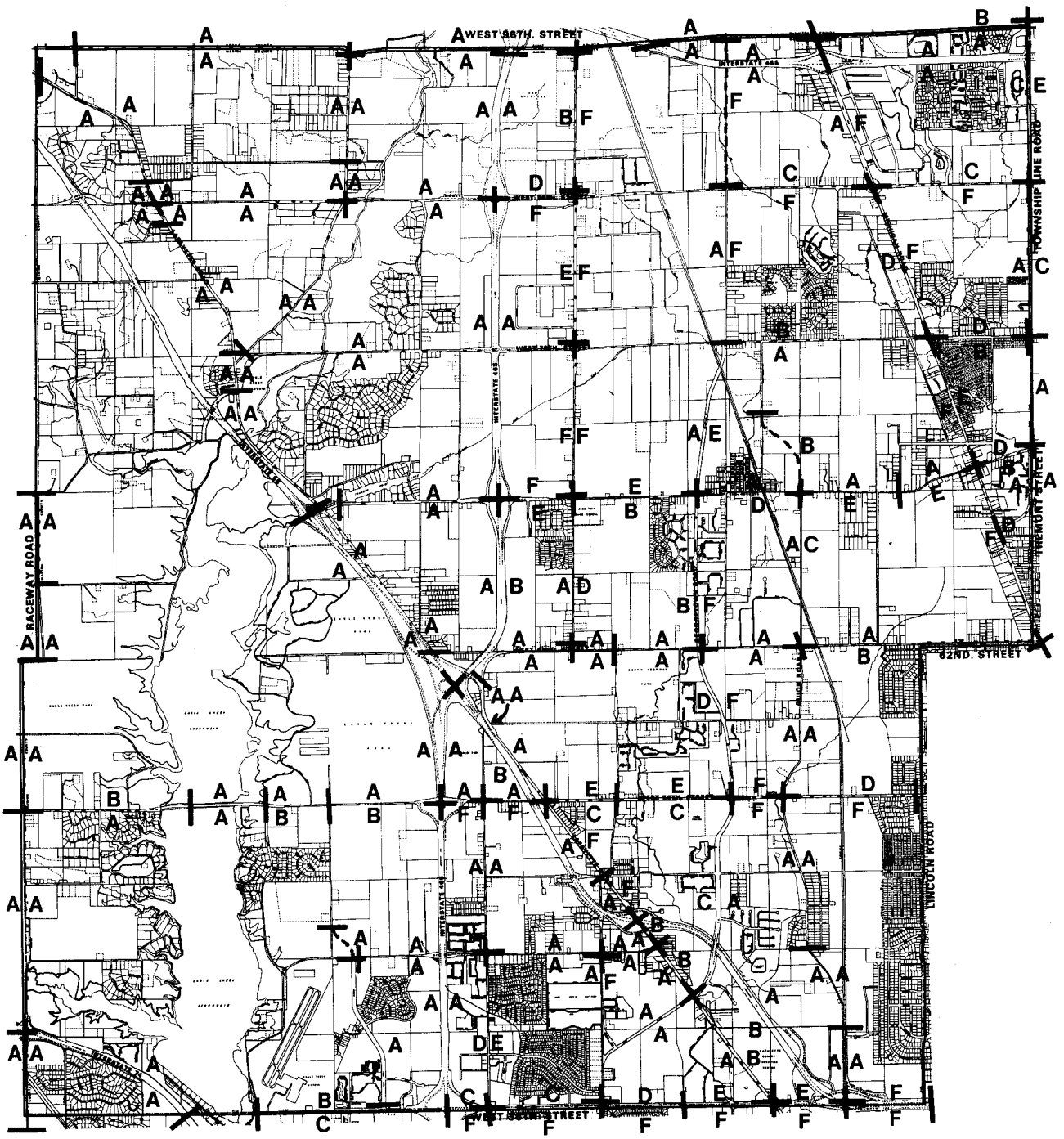
Table 24 and Map 4 summarizes the current 1986 and projected 2005 levels of transportation service for Pike Township during the peak hour when the greatest demand is placed on the transportation system. These are general levels-of-service and do not reflect existing or future intersection characteristics such as exclusive right and left turn lanes which significantly improve traffic operations. The Table also separates the street segments into those programmed to have no major improvements and those having major improvements by 2005.

TABLE 24

Levels of Service
Pike Township Street Segments
1986-2005

	Current 1986 LOS*	Projected 2005 LOS	Number of Segments
Segments with No Planned Improvements	A, B, & C	A, B, C & D	64
	A & B	E & F	19
		TOTAL	83
Segments with Planned Improvements	A, B, C & D	A, B, C, & D	9
	A, B, C & D	E & F	1
	E & F	A, B, C, & D	11
	E & F	E & F	4
	N.A.**	A, B, C & D	5
	N.A.**	E & F	1
		TOTAL	31

*LOS - Level-of-service
**N.A. - Street Segment Not in Existence



PIKE TOWNSHIP PLANNING STUDY

MAP 4

STREET SEGMENT LEVEL-OF-SERVICE

1986 Level-of-Service → A | B

2005 Level-of-Service → A / B

N

Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

In 1986, 89 Pike Township street segments out of 108 total segments in the thoroughfare system had a level-of-service A, B, C, or D. By 2005, it is projected that 89 street segments out of a total 114 street segments will operate at a A, B, C or D LOS. In 1986, 19 street segments had a E or F LOS and it is projected that 25 street segments will have these levels of service by 2005.

After reviewing these statistics, it appears that the City will only maintain a status quo or have a slight loss in transportation services in Pike Township during the transportation planning period. What has to be recognized when reviewing this information is that in order to achieve these projected levels of service the City will have to expend a significant amount of money. Currently, $46,457,000 are programed for Pike Township transportation improvements by 1991.

Overall, the Pike Township transportation system will maintain a high level of service during the 1986-2005 planning period. Currently 82% of the street segments has a A, B, C, or D LOS. Transportation in the year 2005 forecasts project 78% of the township street segments will have a A, B, C or D LOS. Examples of roads which will maintain a high level-of-service without major improvements are Guion Road (from 62nd Street to 38th Street), Lafayette Road (from West County Line Road to 56th Street) and 62nd Street (from Zionsville Road to Guilford Road). Examples of major streets which will receive improvements by 2005 and thereby maintain or achieve an A, B, C or D LOS are West County Line Road (from Crawfordsville Road to 56th Street), 56th Street (from I-465 to Lafayette Road), 38th Street (from Dandy Trail to I-465) and 71st Street (from Michigan Road to Guion Road).

However, a number of street segments are projected to have a 2005 levels of service E or F. Some of these street segments are projected to deteriorate from current high levels of service and others will remain at a low LOS even though improvements are planned by 2005. Portions of Zionsville Road, Georgetown Road, Lafayette Road and 71st Street will likely see current A, B, C or D LOS reduced to E and F. These segments are not planned to have major improvements by 2005. However, as a result of a closer examination of roadway conditions in Pike Township these street segments may be recommended for additional improvement. Portions of 38th Street, 86th Street and Michigan Road are programed for significant improvements however, the levels of service will remain at levels E and F. Projected volumes of traffic for these three primary arterials will meet or exceed capacities and congestion will continue to be experienced.

There are 50 street segments identified in Table 25. Nineteen of these street segments are projected to have a E or F level-of-service with no planned improvements. The remaining segments are planned for improvements and the majority are projected to have a 2005 level-of-service of A, B, C or D.

TABLE 25

STREET FACILITIES INVENTORY - 1986

STREET NAME		TO	FROM	EXISTING COUNT-YEAR	EXISTING PAVEMENT WIDTH (FEET)	EXISTING NUMBER LANES	EXISTING CAPACITY	EXISTING V/C RATIO	EXISTING LOS	YEAR 2005 COUNT	PROPOSED FUTURE PAVEMENT WIDTH (FEET)	PROPOSED FUTURE YEAR NUMBER OF LANES	FUTURE YEAR CAPACITY	FUTURE YEAR V/C RATIO	FUTURE YEAR LOS	
GEORGETOWN	RD	86	79	4,361 -83	20	2	13,280	0.33	A	15,637	20	2	13.280	1.18	F	
GEORGETOWN	RD	79	71	7,776 -83	24	2	16,000	0.49	A	15,961	24	2	16,000	1.00	E	
GEORGETOWN	RD	71	62	10,173 -83	24	2	16,000	0.64	B	17,634	24	2	16,000	1.10	F	
GEORGETOWN	RD	62	56	13,350 -83	24	2	16,000	0.83	D	20,829	24	2	16,000	1.30	F	
N HIGH SCHOOL	RD	46	38	11,041 -83	20	2	13,280	0.83	D	12,427	20	2	13.280	0.94	E	
LAFAYETTE	RD	56	MOL	8,623 -83	28	2	16,000	0.54	A	17,900	28	2	16,000	1.12	F	
LAFAYETTE	RD	MOL	I65	8,623 -83	28	2	16,000	0.54	A	17,900	28	2	16,000	1.12	F	
MOLLER	RD	46	38	4,314 -83	19	2	13,280	0.32	A	18,845	19	2	13,280	1.42	F	
~~NORTHWESTERN~~	~~AV~~	96	86	18,176 -83	48	4	32,000	0.57	A	45,676	48	4	32,000	1.43	F	
TOWNSHIP LINE	RD	96	86	8,804 -86	18	2	12,160	0.72	C	11,714	18	2	12,160	0.96	E	
ZIONSVILLE	RD	96	86	9,139 -86	20	2	13,280	0.69	B	14,587	20	2	13,280	1.10	F	
W 56TH	ST	LAF	MOL	9,139 -84	18	2	12,160	0.75	C	11,489	18	2	12,160	0.94	E	
W 56TH	ST	MOL	GTN	9,139 -84	18	2	12,160	0.75	C	11,489	18	2	12,160	0.94	E	
W 56TH	ST	GUI	COO	10,193 -84	18	2	12,160	0.84	D	12,854 M	18	2	12,160	1.06	F	
W 71ST	ST	ZIO	GTN	9,311 -84	22	2	14,240	0.65	B	13,550	22	2	14,240	0.95	E	
ZIONSVILLE	RD	86	79	12,509 -86	20	2	13,280	0.94	E	15,535	20	2	13.280	1.17	F	
ZIONSVILLE	RD	79	71	13,096 -86	18	2	12,160	1.08	F	15,960	18	2	12,160	1.31	F	
W 56TH	ST	GTN	GUI	13,173 -84	18	2	12,160	1.08	F	15,035 M	18	2	12,160	1.24	F	
W 71ST	ST	465	ZIO	14,070 -84	22	2	14,240	0.99	E	17,756	22	2	14,240	1.25	F	
~~COUNTY LINE W~~	RD	56	I74	1,636 -83	20	2	13,280	0.12	A	11,799	48	4	32,000	0.37	A	*
~~COUNTY LINE W~~	RD	I74	CRA	1,636 -83	20	2	13,280	0.12	A	15,414	48	4	32,000	0.48	A	*
GEORGETOWN	RD	56	LAF	12,653 -83	24	2	16,000	0.79	C	19,251	48	4	32,000	0.60	A	*
W 38TH	ST	DAN	465	10,278 -84	20	2	13,280	0.77	C	21,424	48	4	32,000	0.67	B	*
W 46TH	ST	MOL	LAF	7,925 -84	24	2	16,000	0.50	A	8,773	48	4	32,000	0.27	A	*
W 47TH	ST	GUI	LIN	N/A	0	0	N/A	N/A	N/A	6,849	24	2	16,000	0.43	A	*
W 56TH	ST	WCL	BCL	9,345 -84	20	2	13,280	0.70	B	14,813	48	4	32,000	0.46	A	*
W 56TH	ST	DAN	DLG	9,345 -84	20	2	13,280	0.70	B	14,813	48	4	32,000	0.46	A	*
W 56TH	ST	DLG	465	9,345 -84	20	2	13,280	0.70	B	14,813	48	4	32,000	0.46	A	*
W 71ST	ST	GTN	GUI	12,181 -84	22	2	14,240	0.86	D	15,765	48	4	32,000	0.49	A	*
NORTHWESTERN	AV	86	79	12,051 -83	22	2	14,240	0.85	D	39,022	48	4	32,000	1.22	F	*
NORTHWESTERN	AV	71	62	21,997 -83	22	2	14,240	1.54	F	27,233	48	4	32,000	0.85	D	*
W 38TH	ST	465	HSR	32,362 -84	48	4	32,000	1.01	F	37,747	72	6	48,000	0.79	C	*
W 38TH	ST	HSR	MOL	34,606 -84	48	4	32,000	1.08	F	37,747	72	6	48,000	0.79	C	*
W 38TH	ST	MOL	GTN	36,812 -84	48	4	32,000	1.15	F	41,390	72	6	48,000	0.86	D	*
W 56TH	ST	465	HSR	14,109 -84	18	2	12,160	1.16	F	18,033	48	4	32,000	0.56	A	*
W 56TH	ST	HSR	LAF	17,531 -84	18	2	12,160	1.44	F	18,033	48	4	32,000	0.56	A	*
W 71ST	ST	GUI	HIG	13,447 -84	22	2	14,240	0.94	E	16,608	48	4	32,000	0.52	A	*
W 71ST	ST	HIG	NWE	13,447 -84	22	2	14,240	0.94	E	16,608	48	4	32,000	0.52	A	*
W 86TH	ST	465	ZIO	20,485 -84	24	2	16,000	1.28	F	27,261	48	4	32,000	0.85	D	*
W 86TH	ST	ZIO	NWE	19,605 -84	24	2	16,000	1.23	F	24,571 M	48	4	32,000	0.77	C	*
W 86TH	ST	NWE	TSL	21,879 -84	24	2	16,000	1.37	F	25,637	48	4	32,000	0.80	C	*
W 38TH	ST	GTN	LAF	33,222 -84	48	4	32,000	1.04	F	44,390	72	6	48,000	0.92	E	*
W 38TH	ST	LAF	GUI	40,084 -84	48	4	32,000	1.25	F	44,390	72	6	48,000	0.92	E	*
W 38TH	ST	GUI	KES	54,651 -84	48	4	32,000	1.71	F	48,976	72	6	48,000	1.02	F	*
~~NORTHWESTERN~~	~~AV~~	79	71	16,741 -83	22	2	14,240	1.18	F	30,747	48	4	32,000	0.96	E	*
TOWNSHIP LINE	RD	79	WLN	n/a	0	0	n/a	n/a	n/a	8,421	24	2	16,000	0.53	A	*
EAGLE CREEK	PY	REE	46	n/a	0	0	n/a	n/a	n/a	2,683	24	2	16,000	0.17	A	*
GUION	RD	NAU	71	n/a	0	0	n/a	n/a	n/a	10,263	24	2	16,000	0.64	B	*
GEORGETOWN	RD	96	86	n/a	0	0	n/a	n/a	n/a	18,226	24	2	16,000	1.14	F	*
TOWNSHIP LINE	RD	NWE	62	n/a	0	0	n/a	n/a	n/a	12,754	24	2	16,000	0.80	D	*

* - Future Year Level-of-Service based on proposed roadway improvements

PLANNED IMPROVEMENTS

Transportation improvements are programed through the Indianapolis Regional Transportation Improvement Program (IRTIP). The IRTIP presents transportation improvements proposed by government and transportation agencies in the Indianapolis Urbanized Area. The basic objective of the IRTIP is to provide the best attainable coordinated transportation system.

There are two planning elements which provide the principal evaluation methods for programming projects in the IRTIP. The Long-Range Transportation Plan is a plan which implements long range transportation objectives and facilitates improvements that increase the overall capacity of the Indianapolis Transportation. The Transportation System Management Process System Report plans short-range objectives which address current trouble spots in the transportation system. An example of a long-range transportation improvement would be the proposed construction of two additional lanes for 38th Street from High School to Industrial Boulevard. A programmed short-range project is the widening of the intersection at 56th Street and Georgetown thereby providing a left turn lane.

A summary of the transportation projects proposed in Pike Township during the IRTIP program period of 1987-1991 is provided in Table 26. It includes 1) Long-range Plan Improvemnts, 2) Transportation System Management Improvements, 3) Bridge Improvements, and 4) other improvements. The total projected cost of all projects proposed for Pike Township during 1987-1991 period is $46,457,000. Locations of these various improvements are shown on Maps 5, 6, 7 and 8.

TABLE 26

PIKE TOWNSHIP
1987-1991 PROGRAMMED TRANSPORTATION IMPROVEMENTS
SUMMARY

A: Construction of Additional Lanes (IRTIP Projects)

Project	Construction Location	Total Cost	Proposed Date
87-SED-2001	W. 38th St., Lafayette Rd. to Industrial Blvd.	$ 1,100,000	7/88-12/89
87-SED-2010	W. 38th St., High School Rd. to Lafayette Rd.	4,000,000	1/88-6/88
87-SED-2037	71st St., Lafayette Rd. to I-465	1,255,000	1/90-12/91
87-SED-2055	Georgetown Rd./79th St. to 86th St.	1,150,000	7/88-12/89
87-SED-2079	Michigan Rd., 38th St. to 86th St.	11,100,000	1/90-12/91
87-SED-3095	W. 86th St., I-465 to Payne Rd.	4,630,000	7/88-12/89
87-SED-3125	71st St., I-465 to Michigan Rd.	2,950,000	1/90-12/91
87-SED-3203	W. 56th St., I-465 to Lafayette Rd.	2,300,000	1/90-12/91
	Total	$28,485,000	

B: Intersection, Signalization Realignment and Lighting Improvements (TSM Projects)

Project	Location	Total Cost	Proposed Construction Date
87-SED-2054	56th St. and Georgetown Rd.	$1,125,000	7/88-12/89
87-SED-3004	Georgetown Rd., Lafayette Rd. to I-65	120,000	7/87-12/87
87-SED-3027	38th St./Dandy Trail to I-465	1,000,000	7/88-12/89
87-HAM-1002	96th St. and Michigan Rd.	312,000	7/87-12/87
87-IDH-1024	I-65 and Lafayette Rd.	83,000	7/87-12/87
87-IDH-1051	I-465 and I-65-Northwest	85,000	1/87-6/87
87-IDH-3016	I-465, from I-74 West to S.R. 37	1,600,000	1/90-12/91
	Total	$4,325,000	

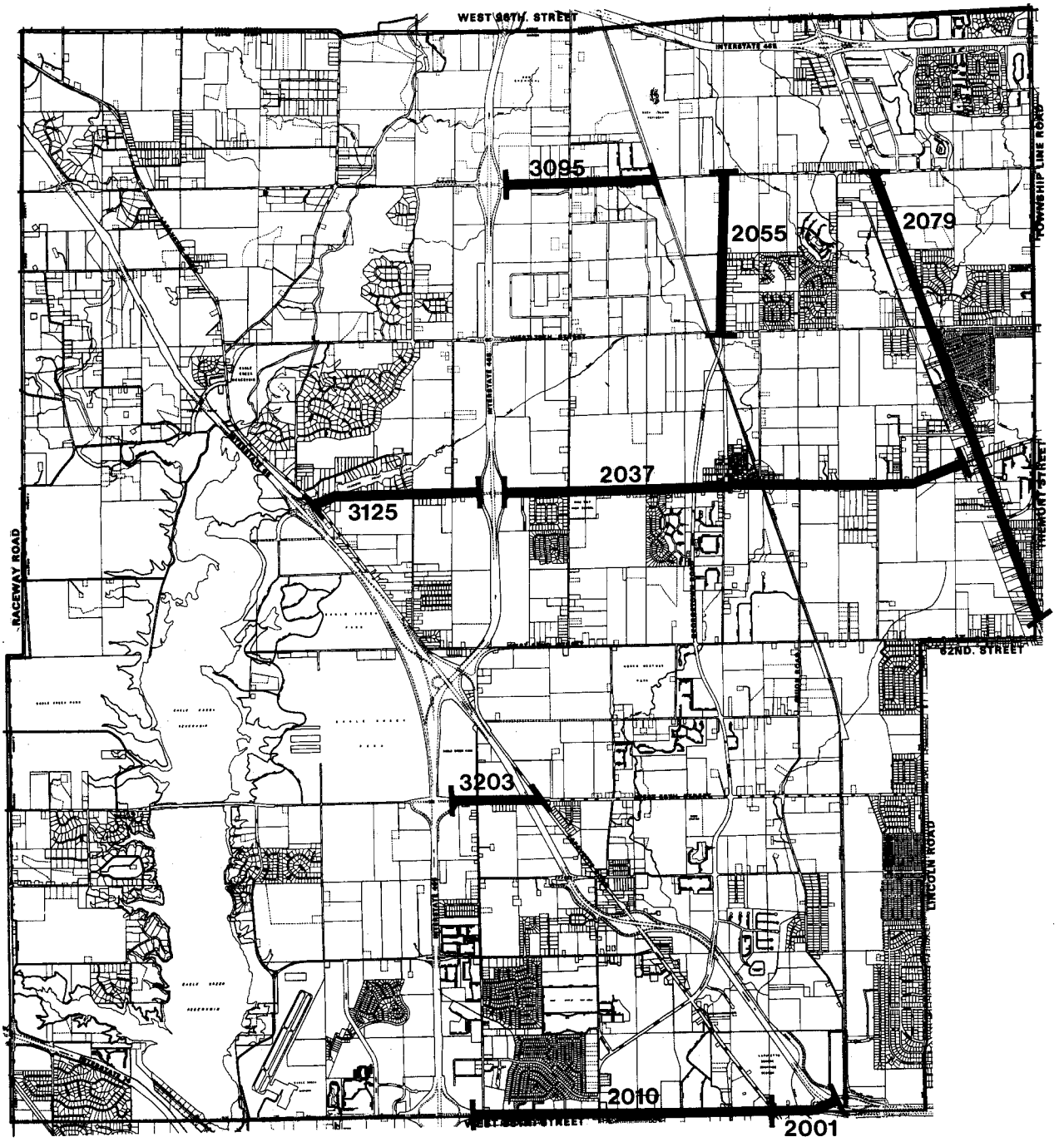
C: Bridge Improvements

Project	Location	Total Cost	Proposed Construction Date
87-SED-2067	Wilson Rd. over Fishback Cr.	$ 310,000	1/88-6/88
87-SED-3042	52nd St. over Little Eagle Creek	130,000	7/88-1/89
87-SED-3054	76th St. over Crooked Creek	440,000	7/88-12/89
87-SED-3061	59th St. over Little Eagle Creek	440,000	1/88-6/88
87-SED-3122	82nd St. over Fishback Cr.	324,000	1/88-6/88
87-SED-3123	Lafayette Rd. over Bushes Run	420,000	7/88-12/89
87-SED-3124	Hollingsworth Rd. over Little Eagle Cr.	437,000	7/88-12/89
87-SED-3201	4100 Tansel Rd.	65,000	7/87-12/87
87-IDH-3004	56th St. over I-465	2,150,000	7/88-12/89
	Total	$4,917,000	

D: Interstate Highway Resurfacing and Rehabilitation Projects

Project	Location	Total Cost	Proposed Construction Date
87-IDH-1041	I-65, Cold Spring Rd. to 1.3 miles north of Lafayette Rd.	$3,534,000	1/87-6/87
87-IDH-2016	I-465, I-65 to Boone-Marion Co. Line	2,436,000	7/87-12/87
	Total	$5,960,000	

Total Cost of projects in Pike Township 1987-1991 $ 46,457,000



PIKE TOWNSHIP PLANNING STUDY

MAP 5

1987-1991 IRTIP ROADWIDENING PROJECTS

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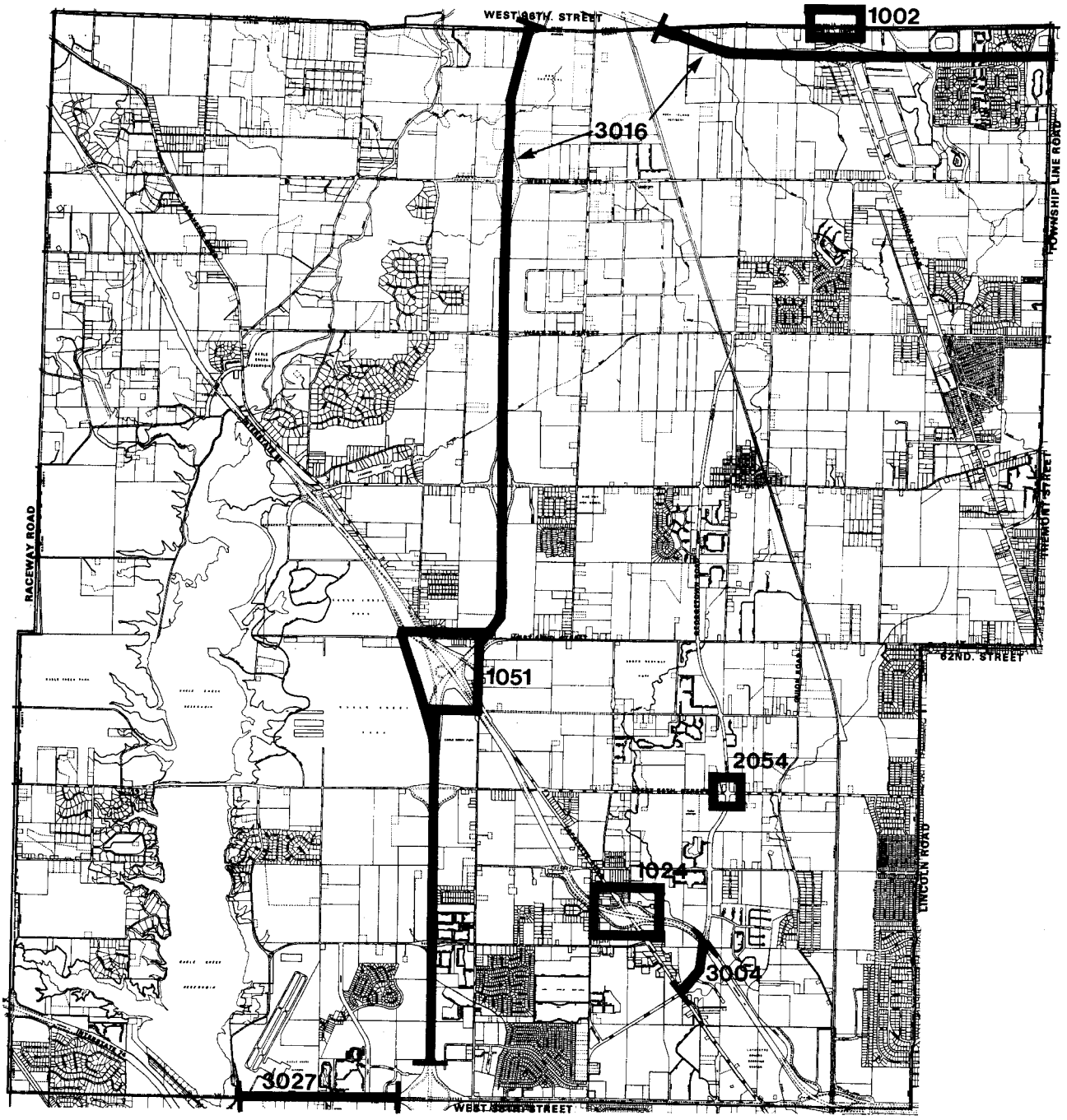

PIKE TOWNSHIP PLANNING STUDY

MAP 6

TSM PROJECTS, INTERSECTION, SIGNALIZATION REALIGNMENT AND LIGHTING IMPROVEMENTS

1987-1991 IRTIP

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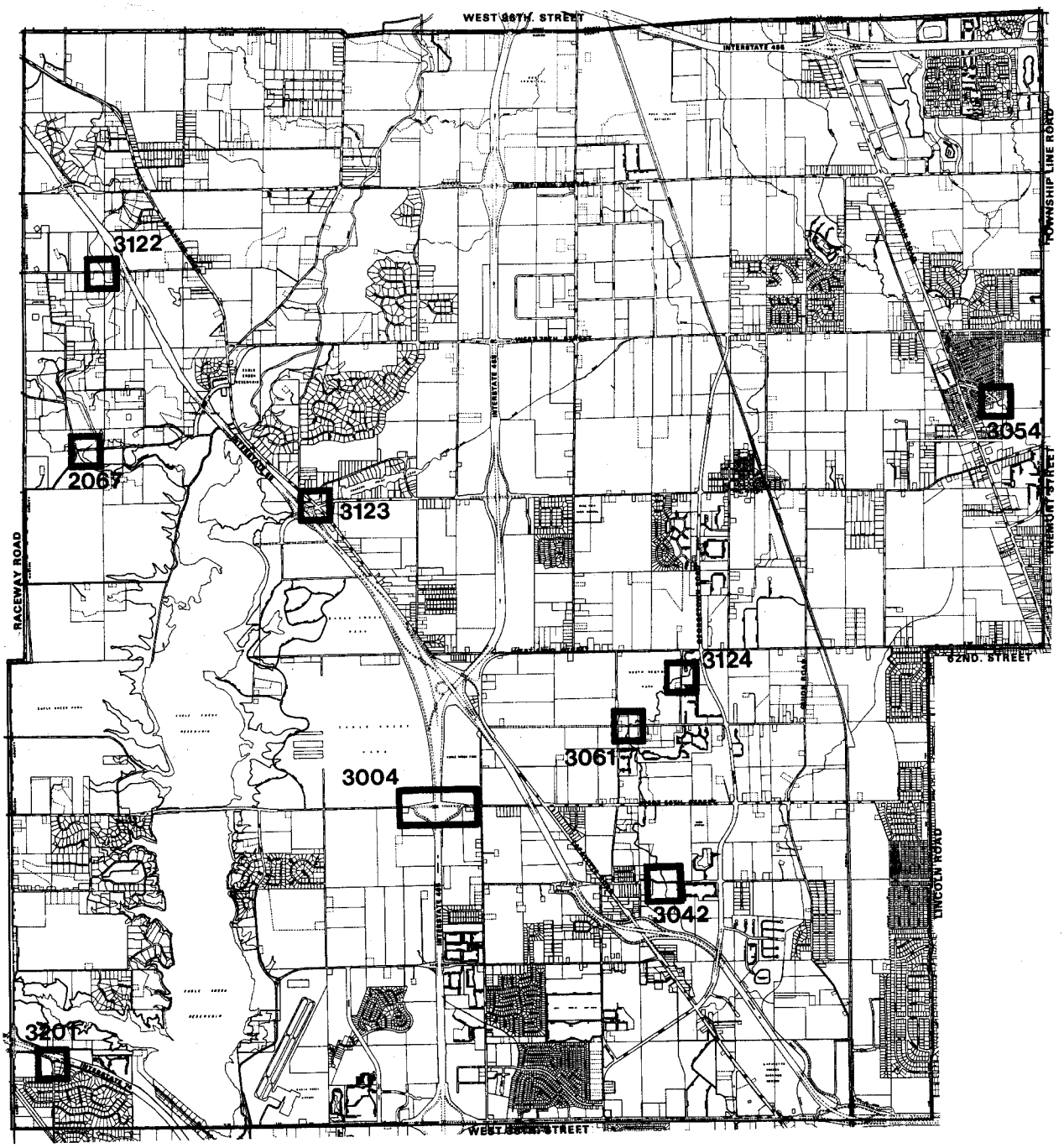

PIKE TOWNSHIP PLANNING STUDY

MAP 7

BRIDGE IMPROVEMENTS

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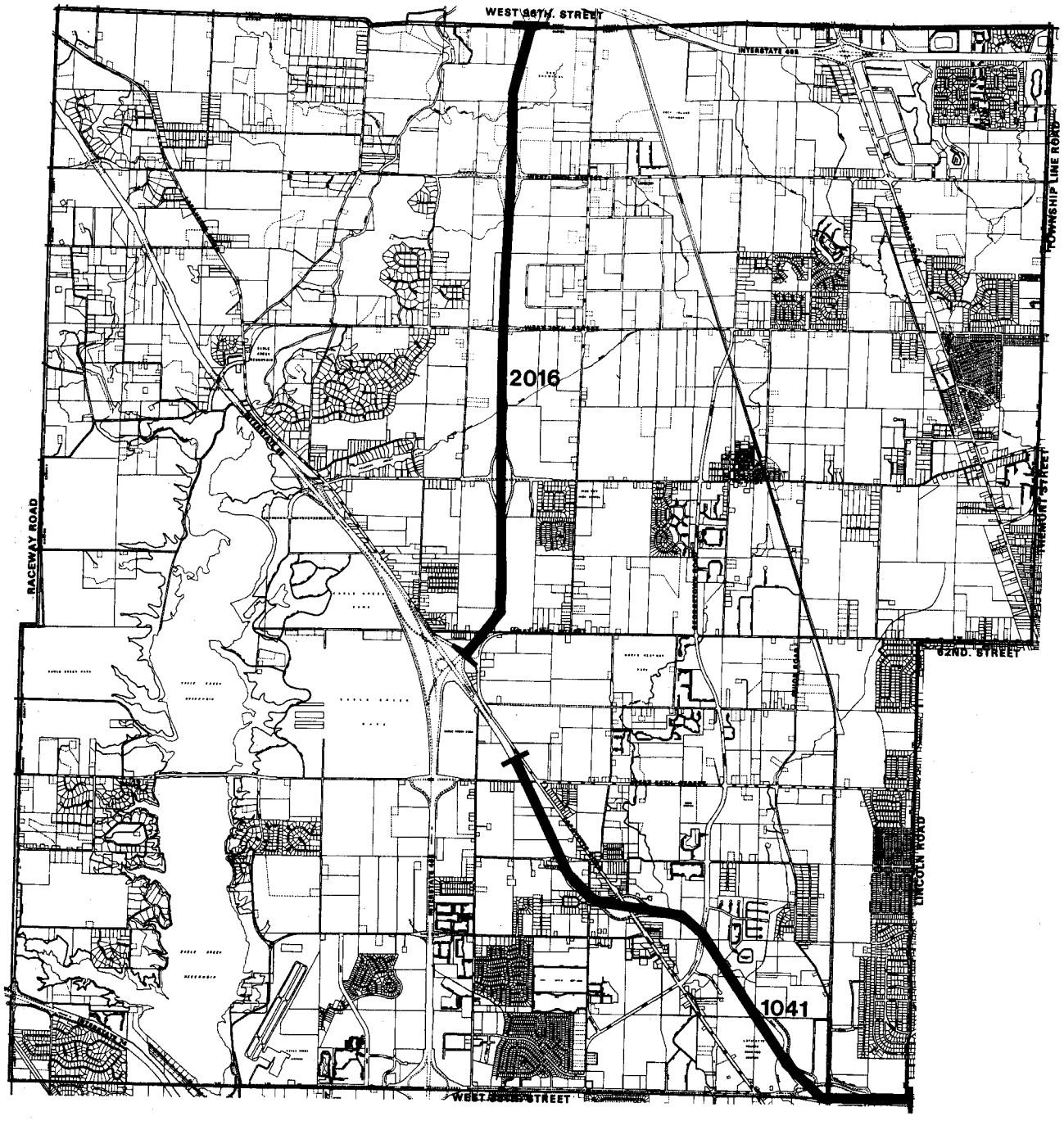

PIKE TOWNSHIP PLANNING STUDY

MAP 8

INTERSTATE HIGHWAY RESURFACING AND REHABILITATION PROJECTS

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Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

CHAPTER 7
PIKE TOWNSHIP PUBLIC SCHOOL SYSTEM AND PUBLIC SAFETY SERVICES

METROPOLITAN SCHOOL DISTRICT OF PIKE TOWNSHIP

Enrollment Trends and Projections

Pike Township was the county's fastest growing township in the 1970's with a 69.2% growth rate. If the population projections for 1990 of 33,600 people hold true, Pike Township will have grown 225% in just 20 years.

The high growth in this area translates into increasing pressures on the Pike Township School District to expand its services to meet the demands of an expanding student population.

Enrollment trends for the past five school years show total enrollment in Pike Township schools increasing from a 1982-83 level of 3,634 to a 1986-87 level of 4,249. This 615 student increase represents a 16.9% increase in total enrollment. However, 277 students, or 43.9% of the recent growth; entered the school system this year; continuing the trend of exponential growth. For example, the enrollment increased by 2.1% in 1983-84, 2.8% in 1984-85, 4.1% in 1985-86, and 7% in 1986-87. This year's growth rate of 7% is the largest rate of increasing enrollment in over 25 years.

Although there have been significant increases in enrollment at all grade levels (from kindergarten to high school), the largest increases occurred at the elementary school level. In the past five years, grades K-5 have accounted for 62.8% of the school district's growth. This can partly be explained by the recent swell in the national age group, which is being termed the "baby-echo" and is the result of the growing number of children of the "baby-boom" generation. These baby-boomers, now in their child bearing years, comprise 47% of the Township's population compared to only 38% for the County. This presents the potential for continued high growth in school enrollment.

The growth trend at the elementary level is projected to continue over the next ten years with new kindergarten enrollments raising the total enrollment for the grade to 485 students, a 70.2% increase. Total elementary school (K-5) enrollment is expected to climb 90.8% by the 1996-97 school year.

In the past five years, the middle school grades (6-8) have accounted for only 3.6% of the school district's total growth with grades 6 and 7 experiencing a slight enrollment decline. The township's overall high rate of population growth has enabled it to avoid the national trend of a shrinking 12-14 year old age group to keep the number of students enrolled in middle school relatively stable.

After one more year of expected decline in middle school enrollment, the number of students at this level is expected to increase. By 1988-89, middle school enrollment in Pike Township will have recovered to its 1982-83 level, and by 1996-97, the district projects an 85.4% increase in enrollment over this year's figures.

Increases in Pike High School's enrollment accounted for 161 new students or 26.2% of the district's total growth over the past five years. However, this growth has been sporadic with the graduating classes of 1984 and 1986 being smaller than those of the preceeding years. Some of the variation in the size of the end of the year graduation class can be explained by differences in the number of December (mid-term) graduates. Last year there were 35 mid-term graduates while this year there were only 25. Another explanation is the variation in the size of the freshman class which has declined in 3 out of the last 4 years.

This year's freshman class is down by 73 students from last year's total. This means that the class of 1990 will be unusually small. Even though growth at the high school level is sporadic, projections show continued uphill growth from 1990 to 1997 as the growing ranks of elementary school students approach high school age. By 1996-97, enrollment at Pike High School will have increased by 45.9% over this year's total.

The requirements for special education have also increased with the Township's increasing population. Enrollment in special education classes accounts for 4.2% of the district's total enrollment, and 4.5% of the district's five year growth (thus keeping the proportion of special education students relatively stable). However, projected special education enrollment for 1996-97 shows only a 55.6% increase over this year's total. With total enrollment in the district increasing by 74.7%, the proportion of students expected to be involved with special education will decline to 3.8%.

Student Body Characteristics

The characteristics of the student body in Pike Township show a diverse background and experience. In terms of housing, 38% of the students lived in multi-unit housing in 1985 with a student per household ratio of .19. This represents a relatively constant number of students in multi-unit housing since 1981 when 35% of the students lived in such housing. The percentage of students in grades K-5 that lived in multi-unit housing in 1985 was 48%. This results from younger families (usually with younger children) moving into the new apartment/condominium complexes being built in the Township's multi-unit housing boom. This type of housing attracts younger families who can not yet afford to buy their own homes. As the construction of more multi-unit housing continues, enrollment in grades K-5 will increase.

Pike Township's School District is desegragated and therefore enjoys a healthy racial mix in its student body. Because of its achievement of an acceptable racial mix in its schools, the township is exempt from mandatory busing. The numbers of native Americans, Hispanics, and Asians in the school district are small. However, this is not surprising considering the small numbers in these groups throughout Marion County. The 1986-87 enrollment consisted of 1,143 or 26.1% black students and 3,028 or 71.5% white students. The percentage of black students in Pike Township has increased from 16.42% of the student body in 1976-77. When all of the various minority groups are combined, the percentage of minority students (1985-86) is 28.52%, up from 17.63% just ten years ago.

The minority students are not concentrated in a few schools, but are spread evenly throughout the district at all levels of education. The four elementary schools range from a minority student population of 25.15%. At the middle school level, Lincoln has a student body which is 27.95% minority while Guion Creek has only a slightly higher minority concentration of 34.26%. Pike High School is also desegrated with a 28.17% minority enrollment.

Facility Needs

There are currently four elementary schools, two middle and one high school in the district. Three of the elementary schools have a capacity of 600 students while the fourth, Castbrook, has a capacity of 650 students. Last year none of these schools were close to being full, but two-- Central and Eagle Creek-- were over 80% of capacity (84.5% and 86.3% respectively). The elementary school level of the system was at 78.5% of capacity in 1986-87. Projected student enrollment will require the construction of one new school (an average capacity of 612 students) by 1990 and another new school by 1994.

The two middle schools-- Lincoln and Guion Creek-- have a capacity of 915 and 1,130 students respectively. In the 1986-87 school year Lincoln operated at 60% of capacity while Guion Creek ran at only 43.2% of capacity. Future enrollment projections show that the space in these two schools will be sufficient to handle student needs beyond 1997.

Pike High School has a capacity of 2,000 students. Last year the school operated at 65.15% of capacity before mid-term graduation and drop-outs. After December, the high school was only at 62.5% of capacity. Enrollment projections show Pike High School easily handling the estimated 1,855 students in 1996-97. However, at that time the school will be at 92.75% of capacity and will face potential overcrowding if enrollment trends continue into the future.

The Metropolitan School District of Pike Township expects to begin construction on a new elementary school in extreme northeastern Pike Township on Barnard Street in late June, 1987. The only remaining obstacle to the project is a zoning problem which should be solved soon. The estimated cost of the school is $5,800,000 or $300,000 over the original estimate. It should be completed by the fall of 1988. The project will nearly deplete the district's cumulative building fund, according to the district's planning office.

Other possible school sites in the Township include two Eagle Creek sites, both south of 56th Street. One of the sites is west of the reservoir on 46th Street and could accommodate an elementary school. The second site is just east of the reservoir on 56th Street and could hold an elementary school and a middle school. The final proposed site is less than one mile east of the main campus on Rodebough Road. It contains 80 acres and is larger enough to accommodate an elementary, a middle, and a high school.

In order to ensure that it remains capable of meeting the needs of its students, Pike Township's School District must carefully monitor enrollment, population, and housing construction trends. Not only are the numbers important but so are the locations of new development. For example, if development pushes farther west or northwest into areas that are not easily accessable to a school then plans may have to change and new sites in these areas will have to be chosen to meet the growing need.

Information for the previous section was taken from:

Jordan, Charles O., Superintendent of Schools for Pike Township, Educational Facilities Report, Metropolitan School District of Pike Township, Indianapolis, May 5, 1986.

INDIANAPOLIS PUBLIC SCHOOL SYSTEM - PIKE TOWNSHIP

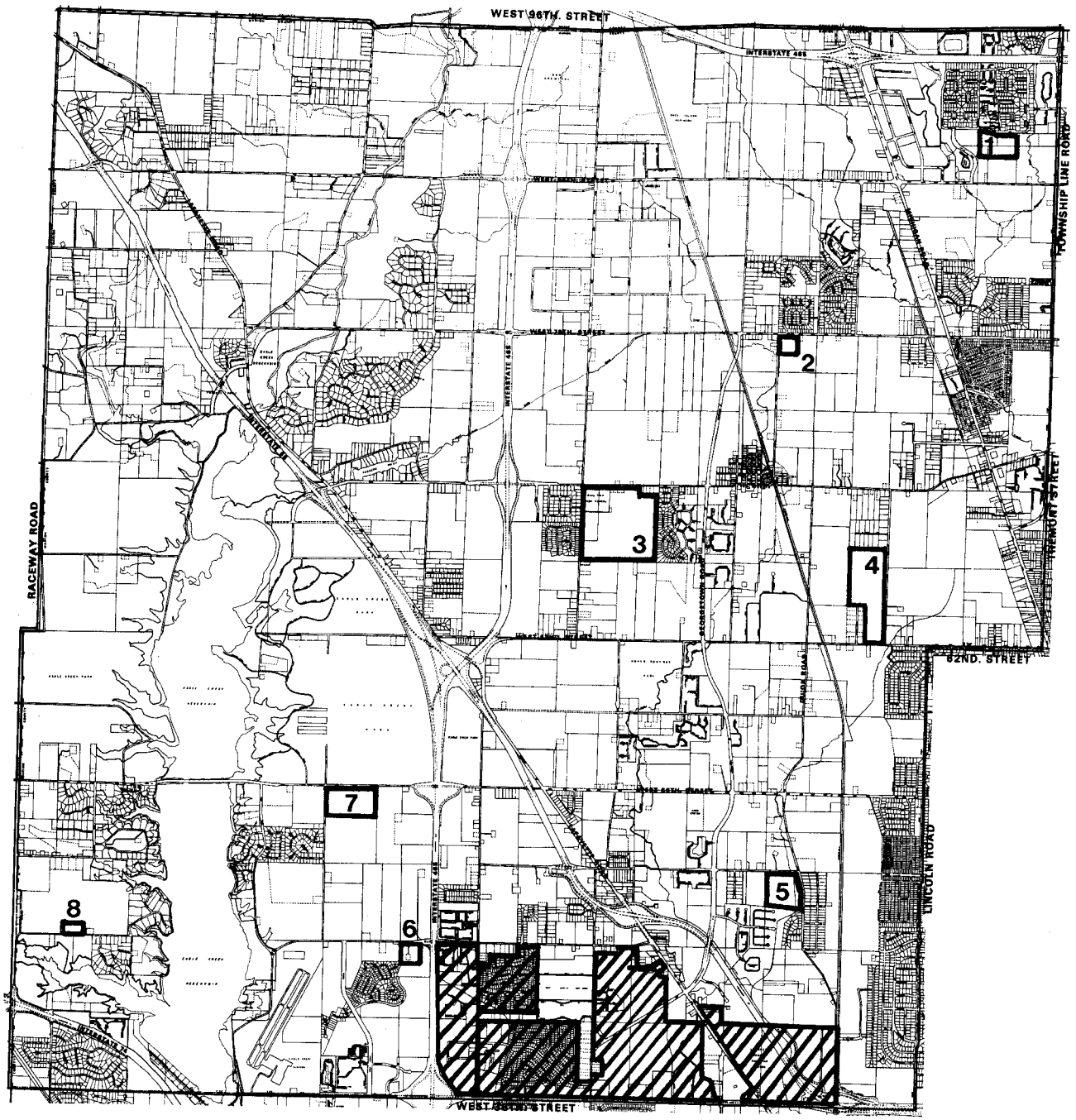
There are 515 students residing in Pike Township who also live within the Indianapolis Public School System (IPS). The section of Pike Township that is under the juristiction of IPS corresponds to the area within the old city limits.

Most of the elementary school students in this area are enrolled in School 109. This school is located on Gateway Drive and is the only IPS school in Pike Township. School 109 typically operates with 300 students per year, serving residents of both Pike and Wayne Townships.

Given the developed nature of the area serviced by School 109, very little new housing is likely to be added. Even though this means the size of the area's population will remain relatively stable, residential turnover will continue to occur implying that the characteristics of the population could change. A high proportion of the in-migrating residents are younger minority families. These families have special needs and could place a greater demand on School 109. This demand can easily be accommodated given that the school is operating at 120 students below its 420 student capacity.

The remaining elementary school students attend School 96 in Wayne Township. Two other IPS schools in Wayne Township, in addition to School 96, serve the IPS students of Pike Township. All of the area's junior high students attend School 108, and all of the senior high students attend Northwest High School.

It is important to note that IPS and The Metropolitan School District of Pike Township are two independent school districts with their own planning, budgeting, and student needs. Despite the fact that some IPS students are Pike Township residents, they are not associated with the Pike Township school district but are the responsibility of IPS.



PIKE TOWNSHIP PLANNING STUDY

MAP 9

Shaded area is part of the Indianapolis Public School System

PIKE TOWNSHIP SCHOOLS

Area 1 - 17 Acre site for the new Elementary School
2 - Eastbrook Elementary School
3 - Central Elementary/Lincoln Middle/Pike High Schools
4 - 80 Acre site for possible Elementary, Middle, and High School
5 - Guion Creek Elementary and Middle Schools
6 - Eagle Creek Elementary School
7 - Proposed Elementary and Middle School site
8 - Proposed Elementary School site

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POLICE AND FIRE SERVICE

Public safety services in Pike Township are provided by a variety of agencies. The area of the Township with the Indianapolis Police and Fire Special Service Districts (roughly bounded by 38th and 46th Streets, and by I-465 and Guion Road), is served by the Indianapolis Police and Fire Departments and by the Ambulance Division of Wishard Hospital. That portion of Clermont in Pike Township is served by Clermont Town Marshals and by the Wayne Township Volunteer Fire Department. The remainder of the township is served by the Marion County Sheriff's Department and by the Pike Township Fire Department.

No physical law enforcement facilities are located within the township; due to the nature of the police function, patrols are mobile not requiring decentralized physical facilities.

The Indianapolis Fire Department does not have any stations in the township. The closest facility being Station 33 at 34th Street and Moller Road housing Engine (pumper) 33 and Rescue Squad 33. Wishard Hospital has a district ambulance assigned to the northwest portion of the police and fire districts.

The Clermont area is served by Wayne Township Station 10 located at Crawfordsville Road and Dandy Trail. This station houses two engines, an ambulance and support units.

The Pike Township Fire Department operates four fire stations --

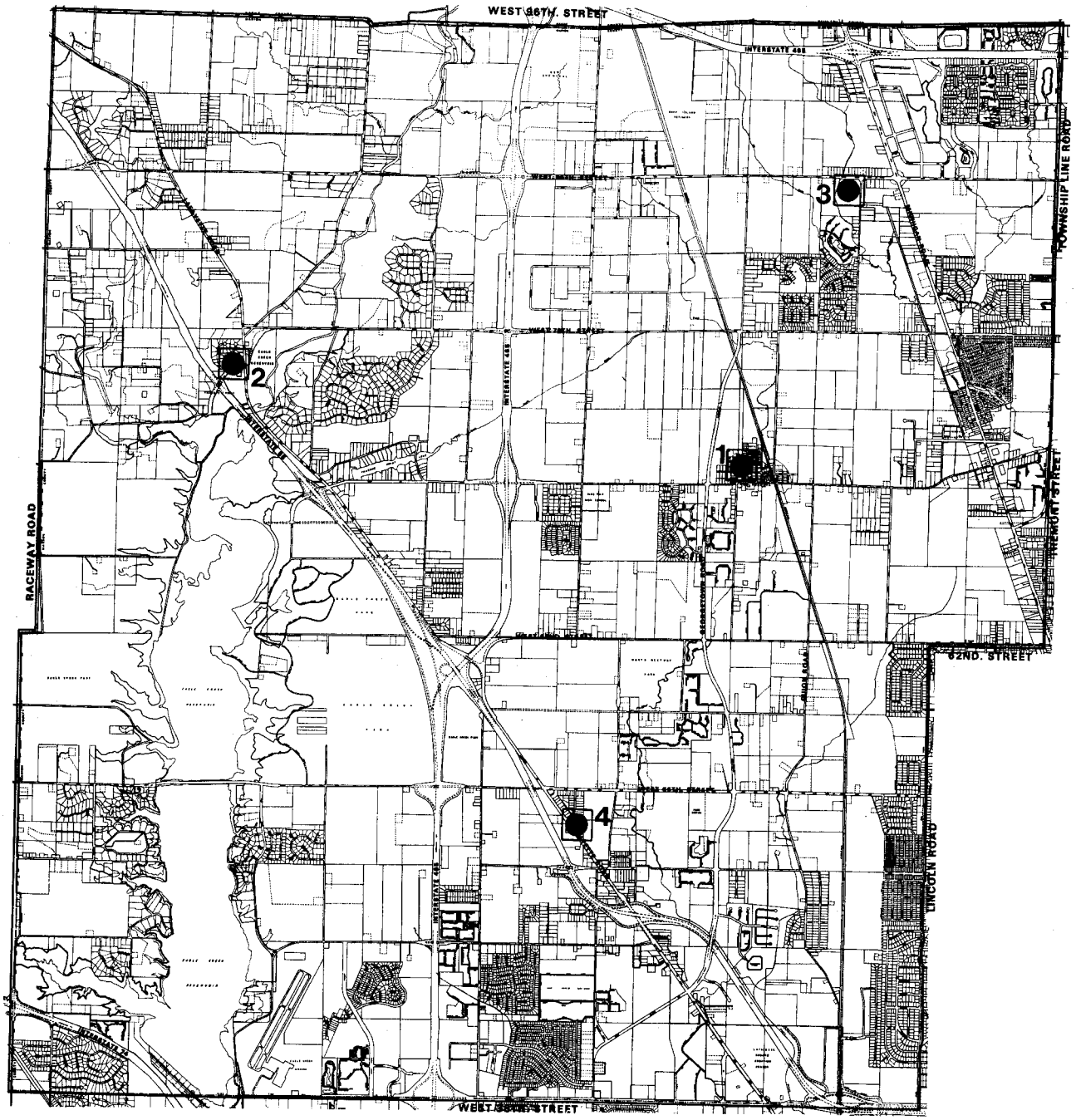
- Station 11, 4881 W. 71st Street
- Station 12, 7931 Traders Lane
- Station 13, 4007 W. 86th Street and
- Station 14, 5355 Lafayette Road.

Police and Fire Service Reported Problems

Both the Marion County Sheriff's Department (MCSD) and the Indianapolis Police Department (IPD) report no unusual law enforcement problems in their respective jurisdictions. That part of the Township within the IPD jurisdiction lies in parts of three patrol beats; no fixed number of patrol districts are found within the MCSD area, the number and geographic extent of districts being established by the area commander on the basis of available units. Neither agency presently has any plans to change operating procedures.

The Indianapolis Fire Department reports no unusual problems in its jurisdiction in Pike Township and has no plans to change its existing configuration.

The Pike Township Fire Department, while not currently experiencing any problems, recognizes the need for an additional fire station west of Eagle Creek Reservoir in the vicinity of 56th Street when that area experiences additional development. Also, it is planned to convert rescue 13 to a MEDIC unit as funding becomes available for additional staff and training.



PIKE TOWNSHIP PLANNING STUDY

MAP 10
FIRE STATION LOCATIONS

1 Station 11, 4881 W. 71st Street
2 Station 12, 7931 Traders Lane
3 Station 13, 4007 W. 86th Street and
4 Station 14, 5355 Lafayette Road.

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Department of Metropolitan Development
Division of Planning
Indianapolis-Marion County, Indiana

CHAPTER 8
DEVELOPMENT DETERMINANTS IN PIKE TOWNSHIP

A number of natural and man-made factors contribute to the amount, type, and direction of development in a community. These factors are called growth determinants. Eight growth determinants (soils, sanitary sewer system, drainage system, flood hazard areas, water service, gas service, electrical service, and the Indianapolis highway system) are described in this study. Seven of these determinants will be briefly described in the following pages. The eighth determinant, the Indianapolis highway system, is described in Chapter 7.

SOILS

In developing portions of Marion County, a fundamental factor to be considered prior to urban development is the soil's capability to accommodate development with a minimum of adverse economic and environmental consequences.

In 1969, a Soil and Water Conservation District (SWCD) was established in Marion County to promote soil and water conservation. The SWCD receives technical assistance from the United States Department of Agriculture, Soil Conservation Service (SCS). One of the major accomplishments of the district is the identification and mapping of soils within Marion County (completed in 1974). All soils rated for urban development potential according to their suitability for a septic tank absorption field and a structural foundation. Slight, moderate, and severe soil limitations are defined as follows:

- "Slight", meaning that soils are favorable and limitations are minor and easily overcome;
- "moderate" -- soils are unfavorable but limitations can be overcome by special planning and design; and
- "severe" -- soils are so unfavorable that special designs, or intensive maintenance is required.

These soil ratings primarily depend on soil characteristics such as shrink/swell potential, shear strength, and soil compressibility.

Limitations of Soils Data

1. The soils data provided by the SWCD does not eliminate the need for on-site testing, evaluation, and planning before design and construction takes place on a specific site.

2. Soil areas too small to delineate (generally, less than two acres) may occur within another soil mapping area. Therefore, more detailed site evaluation is required if small sites are to be developed.

3. Through the application of proper design and construction techniques, it is possible to overcome many of the limitations of a soil for a specific use.

Charting and Mapping of Soils

The 24 soil types (see Tables 27, 28 and 29) identified in Marion County can be grouped into four major soil associations. When the soils are grouped into only four associations some of the detail is sacrificed. However, such groupings are useful in presenting an overall picture of the soil characteristics. This generalized picture is important for broad planning purposes such as planning a transportation corridor recommending development densities or comparing geographic areas. Map 11 provides the generalized soil associations characteristics of Pike Township.

The soil map information indicates that a preponderance of land outside the currently urbanized area is rated "severe" for urban development. By definition, this severe land is limited for development due to a number of possible factors. Of the six possible characteristics which could cause a soil to be severely limited, three are present in Marion County -- a seasonal high water table, slow permeability, and surface water ponding are all prevalent for those soils which have been identified as severely limited. Overcoming these severely limiting soil characteristics requires both sanitary sewer service and associated surface water removal which will prevent contamination of groundwater and drinking water supplies. Storm sewers are also needed, especially where subsurface drainage outlets are inadequate or non-existent.

The generalized soils information for Marion County and for Pike Township can also be expressed in percentages. Table 30 identifies the percentages for the four major soil associations found in Marion County and in Pike Township.

The percentages of the various soil associations found in Pike Township compare very closely with the overall County percentages. As described earlier, a severe rating for septic system means that soil properties are so unfavorable or so difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required.

TABLE 27

SOIL TYPES POSSESSING LESSER LIMITATIONS FOR URBAN DEVELOPMENT MARION COUNTY, INDIANA

Soil	Type	Limiting Characteristics	Septic Systems	Dwellings w/basements	Dwellings w/o basements
*FoA	Fox Loam	poor filter	severe	slight	moderate
*FoB2	Fox Loam	poor filter	severe	slight	moderate
MgA	Martinsville silt loam	shrink-swell	slight	moderate	moderate
MgB2	Martinsville silt loam	shrink-swell	slight	moderate	moderate
OcA	Ockley silt loam		slight	moderate	moderate
OcB2	Ockley silt loam		slight	moderate	moderate

*The permeability is too rapid which may cause pollutants to enter underground water systems.

TABLE 28

SOIL TYPES POSSESSING MODERATE LIMITATIONS FOR URBAN DEVELOPMENT MARION COUNTY, INDIANA

Soil	Type	Limiting Characteristics	Septic Systems	Dwellings w/basements	Dwellings w/o basements
FxC2	Fox complex	poor filter	severe	moderate	moderate
MmA	Miami silt loam	shrink-swell	severe	moderate	moderate
MmB2	Miami silt loam	shrink-swell	severe	moderate	moderate
MmC2	Miami silt loam	shrink-swell	severe	moderate	moderate

TABLE 29

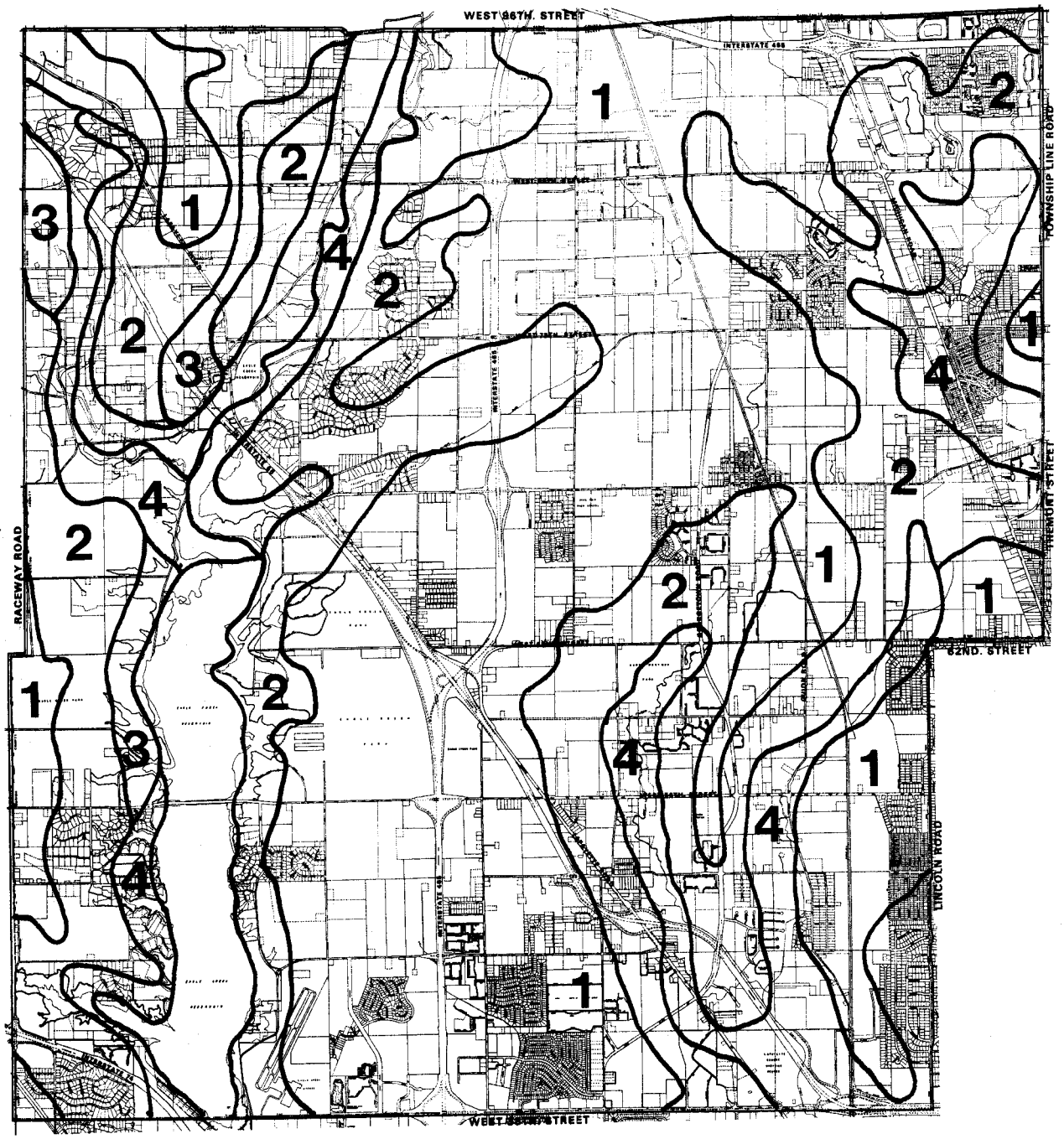
SOIL TYPES POSSESSING SEVERE LIMITATIONS FOR URBAN DEVELOPMENT MARION COUNTY, INDIANA

Soil	Type	Limiting Characteristics	Septic Systems	Dwellings w/basements	Dwellings w/o basements
Br	Brookston silt loam	ponding	severe	severe	severe
CrA	Crosby silt loam	wetness	severe	severe	severe
CsB2	Crosby-Miami silt loam	wetness	severe	severe	severe
Ee	Eel silt loam	flooding	severe	severe	severe
Ge	Genesee silt loam	flooding	severe	severe	severe
HeF	Hennepin loam	steepness	severe	severe	severe
MxD2	Miami complex	steepness	severe	severe	severe
MxE2	Miami complex	steepness	severe	severe	severe
Re	Rensselaer clay loam	ponding	severe	severe	severe
Sh	Shoals silt loam	flooding	severe	severe	severe
Sk	Sleeth loam	flooding	severe	severe	severe
Sn	Sloan silt loam	flooding	severe	severe	severe
We	Westland clay loam	wetness	severe	severe	severe
Wh	Whitaker silt loam	wetness	severe	severe	severe

TABLE 30

SOIL ASSOCIATIONS FOR MARION COUNTY
AND PIKE TOWNSHIP

Soil Association	Percent of Marion County	Percent of Pike	Limiting Characteristics	Septic Systems
Urban Land-Fox-Ockley	18%	3%	Poor filter, erosion	slight
Crosby-Brookston	40%	39%	Poorly drained, wetness, ponding	severe
Miami-Crosby	30%	39%	Wetness, erosion, ponding	severe
Genesee-Sloan	12%	18%	Flooding, wetness, poorly drained	severe



PIKE TOWNSHIP PLANNING STUDY

MAP 11

SOIL ASSOCIATIONS

1	Crosby–Brookston association: Deep, somewhat poorly drained and very poorly drained, nearly level and gently sloping soils formed in a thin silty layer and the underlying glacial till
2	Miami–Crosby association: Deep, well drained and somewhat poorly drained, nearly level to moderately steep soils formed in a thin silty layer and the underlying glacial till
3	Urban land–Fox–Ockley association: Urban land and well drained, nearly level to moderately sloping soils that are moderately deep and deep over sand and gravel and formed in loamy outwash and the underlying gravelly sand and sand or in loamy outwash over the gravelly sand and sand
4	Genesee–Sloam association: Deep, well drained and very poorly drained, nearly level soils formed in loamy alluvium

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Indianapolis-Marion County, Indiana

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SANITARY SEWER SYSTEMS

The availability of sanitary sewers is a key factor affecting the rate and type of growth in developing areas. In Pike Township, the availability of sanitary sewers is extremely important due to the unsuitability of the soils to accommodate the waste water from a septic system.

SEPTIC SYSTEM ISSUES IN THE EAGLE CREEK WATERSHED AREA

The area of Pike Township west of the Eagle Creek Reservoir and Big Eagle Creek is one of the most attractive places for development in Marion County.

Unfortunately as development pressures in the area increase, there is also the increasing possibility that health and environmental problems could arise.

All of the development in this area, with the exception of the Bay Colony subdivision, relies on a septic sewage system. This poses a serious problem when combined with the fact that the area's soil types (Crosby - Brookston, Miami - Crosby, and Genesse - Sloan) can not sustain a septic system without intensive maintenance and special design.

The Marion County Soil Survey, completed in 1974 identified the predominance of these soil types in the area and rated them "severe" for septic systems. Crosby - Brookston soils carry severe limitations because of the presence of clay and high seasonal water tables. The clay prevents the natural absorption of the septic water by the soil. A high water table also inhibits absorption by saturating the soil and thus preventing the absorption of the septic water discharge. Both conditions result in the sewage remaining on or near the surface of the ground where it can easily endanger the health of residents.

Miami - Crosby soils are rated severe for septic systems because of wetness and erosion. The Crosby component of this soil type has problems similar to those mentioned above. When Crosby is combined with the rolling and sometimes steeply sloped Miami soils, ponding water will occur in the depressions after a storm. The surface water will saturate the soils and inhibit the absorption of the septic system effluent.

The final soil type, Genesee - Sloan, has a severe rating for septic systems because of its location in floodplains areas near creeks. If flooding occurs, septic systems will fail. As the water recedes it will transmit the sewage into the nearby creek and eventually into the Eagle Creek Reservoir.

Since this area of northwestern Pike is a major part of the Eagle Creek Reservoir watershed, any sewage that is not absorbed by the soil could easily enter the reservoir and contaminate the Indianapolis water supply as well as the city's largest water recreation area.

A logical solution to this problem is the extension of the Indianapolis public sewer system into the area. This is being done in developments south of Eagle Creek Park such as the Bay Colony subdivision where it is economically feasible to extend existing service north from Wayne Township.

The situation is not so easily resolved in the residential neighborhoods north of Eagle Creek Park. There are four factors which complicate providing of sewer service to this area. The first two involve location. Because it is north of the park, any collectors run to the area from the south would have to cross at least 2.1 miles of undeveloped land. With no one tapping into the system for over two miles, the average cost per resident for sewer service would almost double, rendering such service prohibitively expensive.

The second geographic problem is caused by Big Eagle Creek which is depressed 100 feet at a 20% grade in some places. The creek's topography makes is very difficult if not impossible to extend sewage collectors to the area from the east.

A third factor contributing to the problems of providing sewers to the area is the expense each resident, currently on a septic system, must bear when hooking up to a new sewer system. The cost to a homeowner wanting to connect to the city's new system in Franklin Township has approached $6,300 in some cases. Given the additional costs of providing sewers to northwestern Pike Township this figure would probably be higher.

The effects of this third factor are intensified as additional septic permits are issued in the area. Between 1973 and 1985, 400 acres of previously vacant land in the Reservoir area were developed for residential, commercial and industrial uses. Approximately 285 of these acres were developed for residential purposes utilizing for septic systems. More recently (since 1980) three subdivisions were approved for septic systems in the Eagle Creek watershed (see map 12). These are:

1) The Saddle Ridge subdivision, approved February 8, 1980, with 61.4 acres and 29 lots;

2) Thoroughbred Estates, approved August 30, 1984, with 14 lots averaging 2.25 acres in size; and

3) Eagle Creek Meadows, approved August 14, 1986, with 11 lots each averaging 1.053 acres.

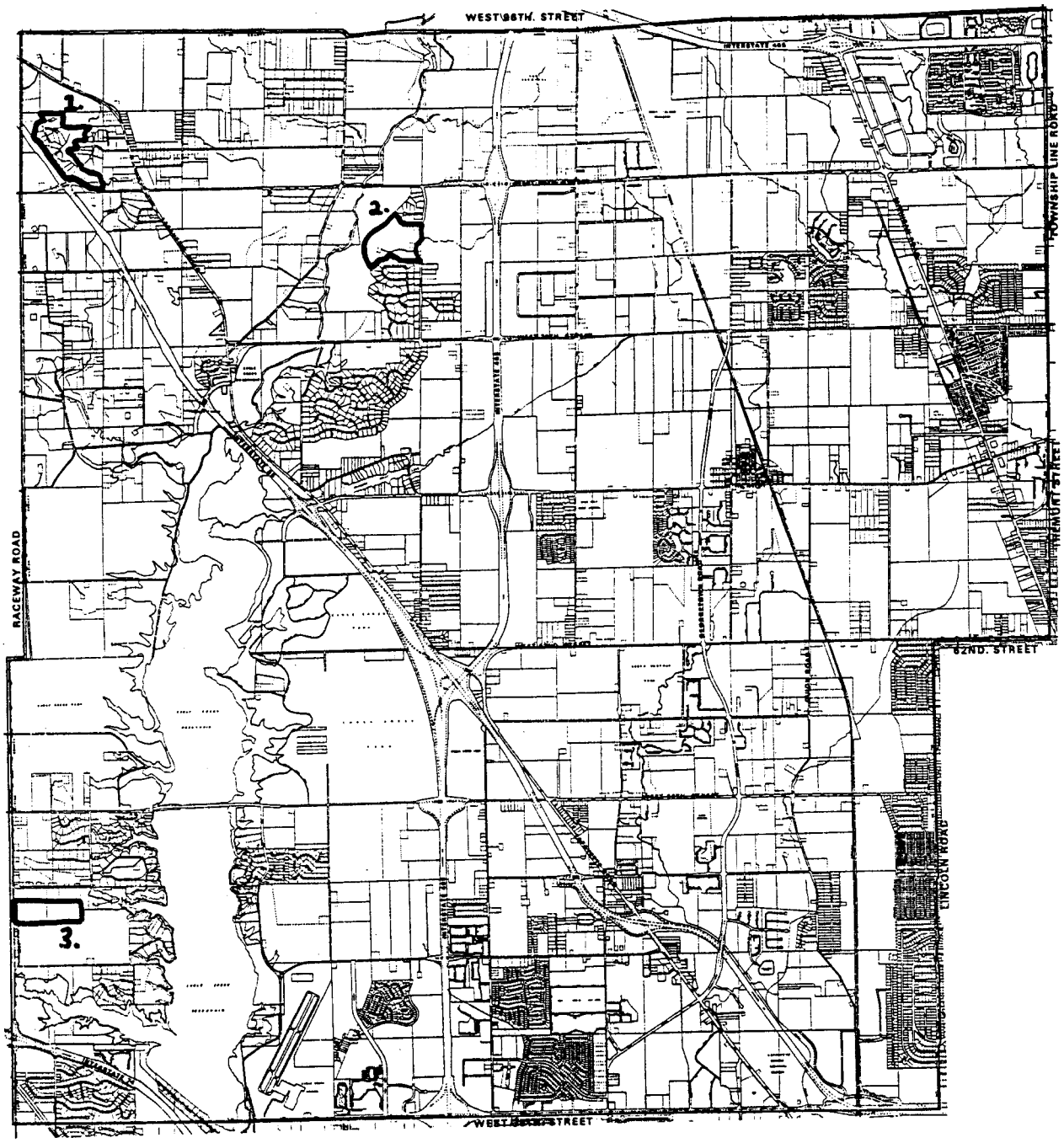
Because of the transition costs, the more residents that have already paid for a septic system, the more difficult it will be to convert the area to sewer service. Despite this fact, new septic system permits have been issued in Pike Township at rates 28 in 1985 and 21 in 1986.

Some of the problems associated with these new septic permits may have been eliminated with better planning. For example, the Eagle Creek Meadows development was approved for septic systems even though sanitary sewer capability existed. Now, instead of facing an upfront sewer hookup charge, the residents are facing the prospect of paying for new sewer hookup after they have already invested in a septic system.

A similar situation occured in the Thoroughbred Estates area. The Traders Pointe North subdivision, located just south of Thoroughbred Estates, has had sewage problems for many years. The problem in this area became so great that plans are now underway to extend sewer service to this area. The Thoroughbred Estates development was approved even though the area was proven to have a septic sewage problem.

The final concern when considering sewer service in the area relates to the area's desirability. Residents currently enjoy large lots and low densities, and they are concerned that sewer service may increase development pressures and densities. However, development pressures already exist in the area, and if the situation is allowed to continue as it has, water pollution could decrease the desirability (and the value) of the existing residential properties. Secondly, sewer service does not necessarily increase development pressures. This is evidenced by the recent example set by the Franklin Township (Acton) sewer project which has not significantly changed development patterns in that area.

This situation should not be allowed to continue as it has -- the consequences could be too severe. However, it is not enough to simply ban future septic permits without providing a viable alternative. The area is too popular and the development pressures too strong to fail to provide a means by which northwest Pike Township can continue to grow in a healthy and safe manner.



PIKE TOWNSHIP PLANNING STUDY

MAP 12

SUBDIVISIONS APPROVED FOR SEPTIC SYSTEMS 1980-1986

1. Saddle Ridge: February 8, 1980
2. Thoroughbred Estates: August 30, 1984
3. Eagle Creek Meadows: August 14, 1986

Sanitary Sewer System Issues in Pike Township

The Indianapolis Department of Public Works (DPW) recently completed a Sanitary Sewer Evaluation Study to identify the major sewer problems in Marion County. Pike Township was found to have four problem areas.

Two of these problems involve subdivisions located outside of existing sewer service areas. These two areas, New Augusta and Traders Point North, have had consistent problems with septic failures. DPW has proposed projects to extend sewer service to these areas and these proposals are currently under consideration by the Board of Public Works. According to DPW, the necessity of these projects nearly guaranties their approval.

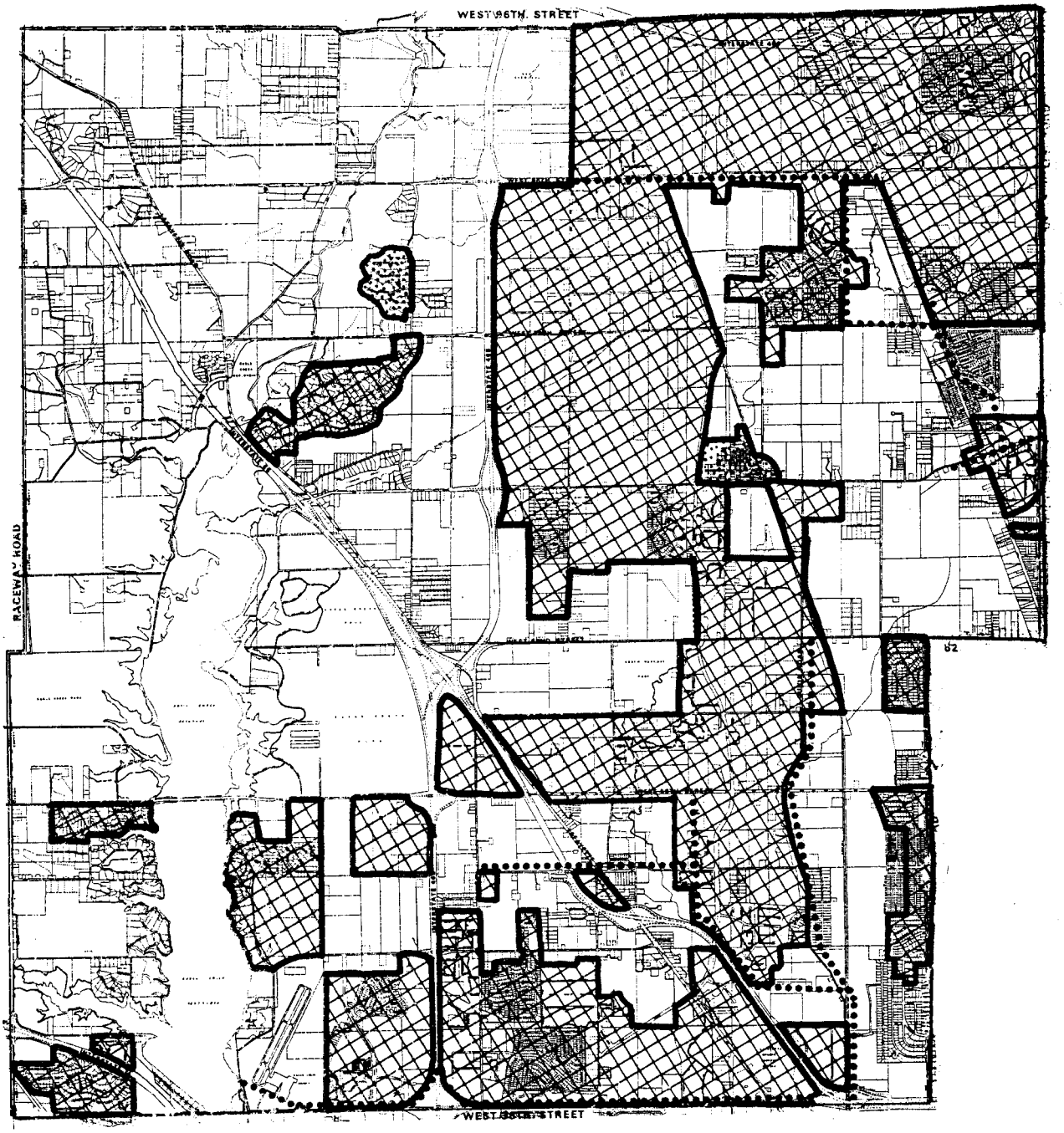
The other two problems involve the current capacity of some of Pike Township's major sewer collectors. The problem, discussed in the following drainage section, stems from the fact that the old sanitary collectors were designed to handle both stormwater and sewage. During heavy rains, the system becomes overloaded and often fails. Two areas of particular concern are the West 86th Street collector (serving Park 100) and the collectors in the southeastern section of the township.

The City has issued a $17 million bond to increase the capacity of the collectors north of 62nd Street which will solve the problems with the Park 100 collector. Plans to address capacity problems in southeastern Pike are currently underway (see Map 13).

DRAINAGE SYSTEMS

According to the Indianapolis Department of Public Works (DPW), inadequate drainage outlets constitute the major surface water drainage problem in the remainder of Pike Township. This problem occurs as runoff from melting snow or heavy rain carries silt and debris into the Township's creeks. As erosion increases, the creeks fill in and are unable to accommodate the runoff. For example, a recent case was identified in which a drainage underpass that had a five foot clearance fifty years ago has filled in to where today's clearance is less than two feet. Reductions in drainage creek capacity cause road and basement flooding as well as surface water ponding.

Although some erosion occurs naturally, the amount of natural erosion is not enough to cause the current drainage problem. A major part of the problem occurs in developing areas when developers clear the natural vegetation, change the topography of the land, and expose large areas of soil to the elements. In Pike Township, where a large proportion of the soil has poor absorption capabilities, this increases the amount and the velocity of runoff as well as the amount of erosion that occurs.



PIKE TOWNSHIP PLANNING STUDY

MAP 13

SEWER SERVICE JUNE 1987

•••••••••• - Existing Sewer Collectors

- Existing Sewer Service Areas

- Proposed Sewer Service Extensions

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Steps should be taken in the future to reduce the development practices that cause high rates of erosion. The natural vegetation in an area should be maintained wherever possible to reduce the impact of falling rain and thereby, reducing the velocity of runoff and the accumulation of sediment. When the preservation of natural vegetation is not possible, only small areas should be disturbed at any given time to reduce total soil exposure. After exposure it is important to refoilage an area as soon as possible to reduce the time in which erosion is allowed to occur.

Erosion of slopes can be reduced in several ways in addition to vegetation preservation. For example, storm runoff can be diverted away from these sloping areas and long steep slopes can be broken up by bench-grading.

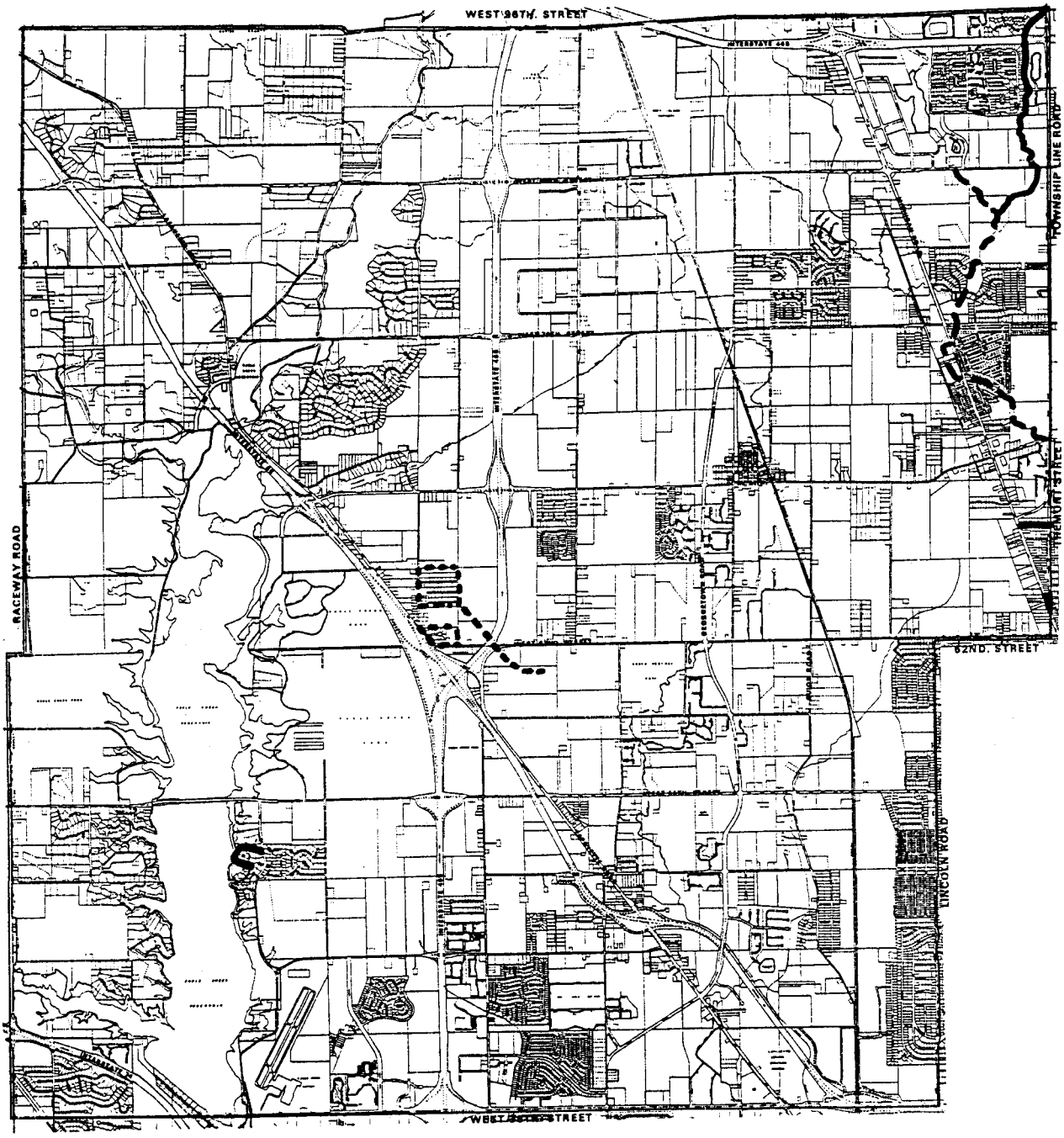
Erosion of streambanks and channels can also be reduced through vegetation and grade reduction. Drainage ditchs can also be curved as much as possible to reduce the velocity of the runoff.

In addition to the erosion problem caused by development, Pike Township's drainage problems are increased because the storm sewer system is often connected to the sanitary sewer system. A heavy rainfall often overloads this dual system to the point of failure. As a result, not only will storm drains back up causing street and basement flooding, but the system failure may also cause sewage related health problems.

In order to help solve this problem, the City has recently issued a $50 million bond to construct drainage projects (along with street repairs) throughout Marion County. There are currently five projects in Pike Township. Two of these projects are aimed at alleviating resident's complaints along the Eagle Creek Reservoir in the Traders Cove subdivision. The third project involves dredging and redefining Delaware Creek. The other projects address drainage problems at 67th Street and in the Grandview - Mayfair area. (See Map 14)

There are also four proposed projects in Pike Township. Three of these resulted from numerous resident complaints in the Oakview - Shanghai subdivision. The projects, located at Oakview Drive and Shanghai Road; Marilyn Drive and Lafayette Road, and Glen Creek, are expected to receive approval and be underway by the end of this year. The fourth project is one of the largest in the County. If approved it would improve flood control on Crooked Creek.

NOTE: Erosion information taken from the Urban Development Planning Guide, The Hoosier Heartlend Resource Conservation and Development Council, Inc., Indianapolis, Indiana, 1985, pp. 1-7.



PIKE TOWNSHIP PLANNING STUDY

MAP 14

DRAINAGE PROJECTS JUNE 1987

——— - Current Projects

– – – - Proposed Projects

GAS SERVICE

All major developments in Pike Township are currently served by Citizens Gas and Coke Utility. (See Map 15).

Service can easily be extended to any new developments throughout the Township by extension of the existing service network.

The northwest portion of Pike Township is impacted by 5 cross-country oil and oil product pipelines. The four companies which operate these pipelines include: Marathon Oil, Panhandle Eastern, Buckeye Oil and Shell Oil. Because building setbacks for such pipelines range from 50' to 120' there are negative impacts for development next to these pipelines. The impacts do not include just the loss of land for development but also the impact of significantly complicating the design of a subdivision. (See Map 16).

ELECTRICAL SERVICE

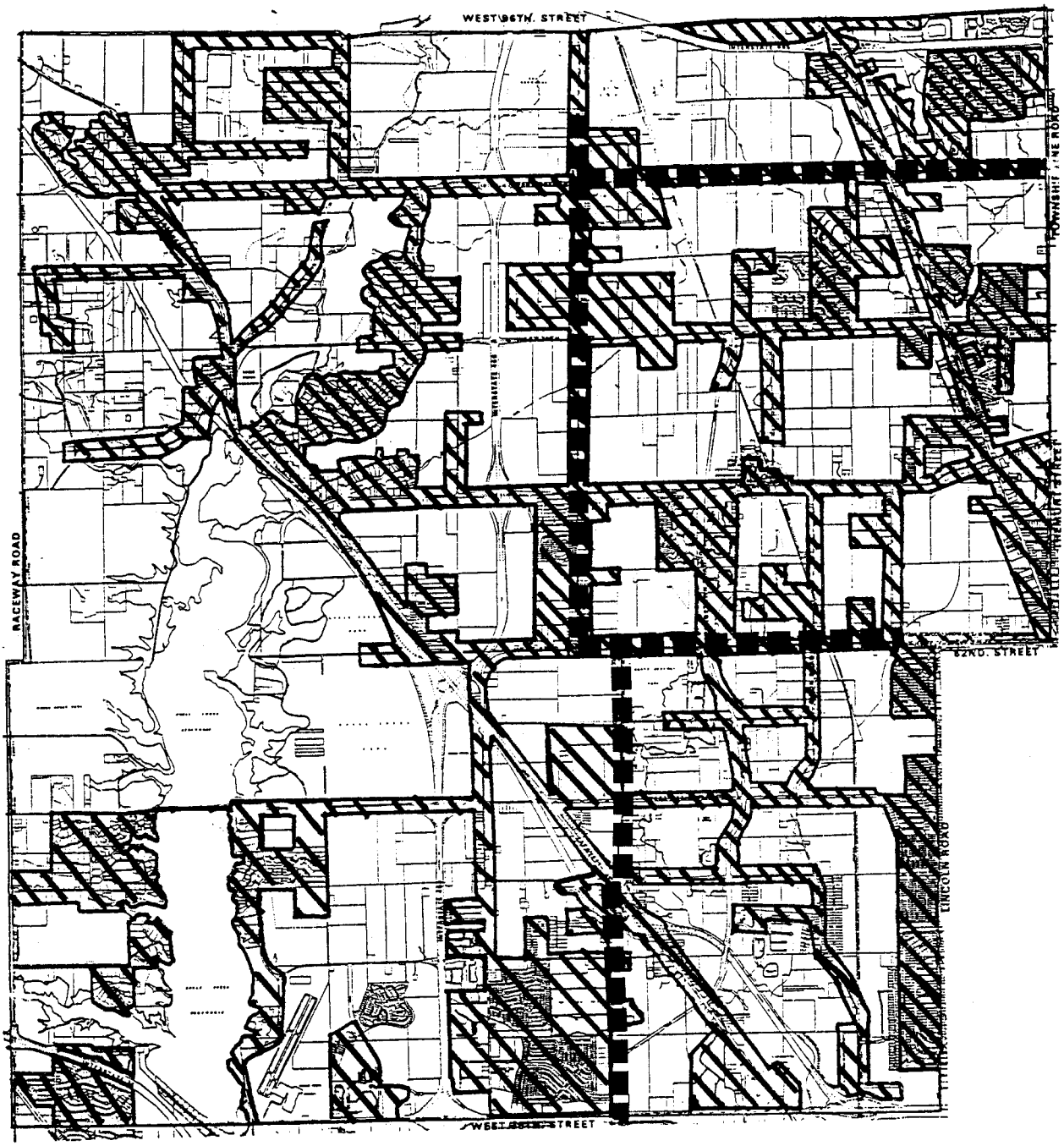
Electrical service, provided by Indianapolis Power and Light and to a minor extent, Public Service Indiana, is available throughout Pike Township. Every development in the Township benefits from electrical hookups and electrical service is not a limiting factor in the Township's development.

WATER SERVICE

The Indianapolis Water Company currently serves the majority of developments east of I-465, including the Park-100 industrial park. The remaining subdivisions in eastern Pike, primarily those along the Washington Township line, are still using well water. However, if the need or desire for water service develops in these areas, they could easily be served with only minor extensions of the existing water lines. (See Map 17)

There are also three subdivisions, (Normandy Farms, the Traders Cove area, and the Highlands area) located west of I-465 which are currently served by the water company. Service is readily available in Pike Township east of Eagle Creek Reservoir and Big Eagle Creek.

The area west of the Reservoir relies entirely on well water for its water supply. The same topgraphic obstacles that exist for the extension of sewer lines also prevent cost-effective water service.



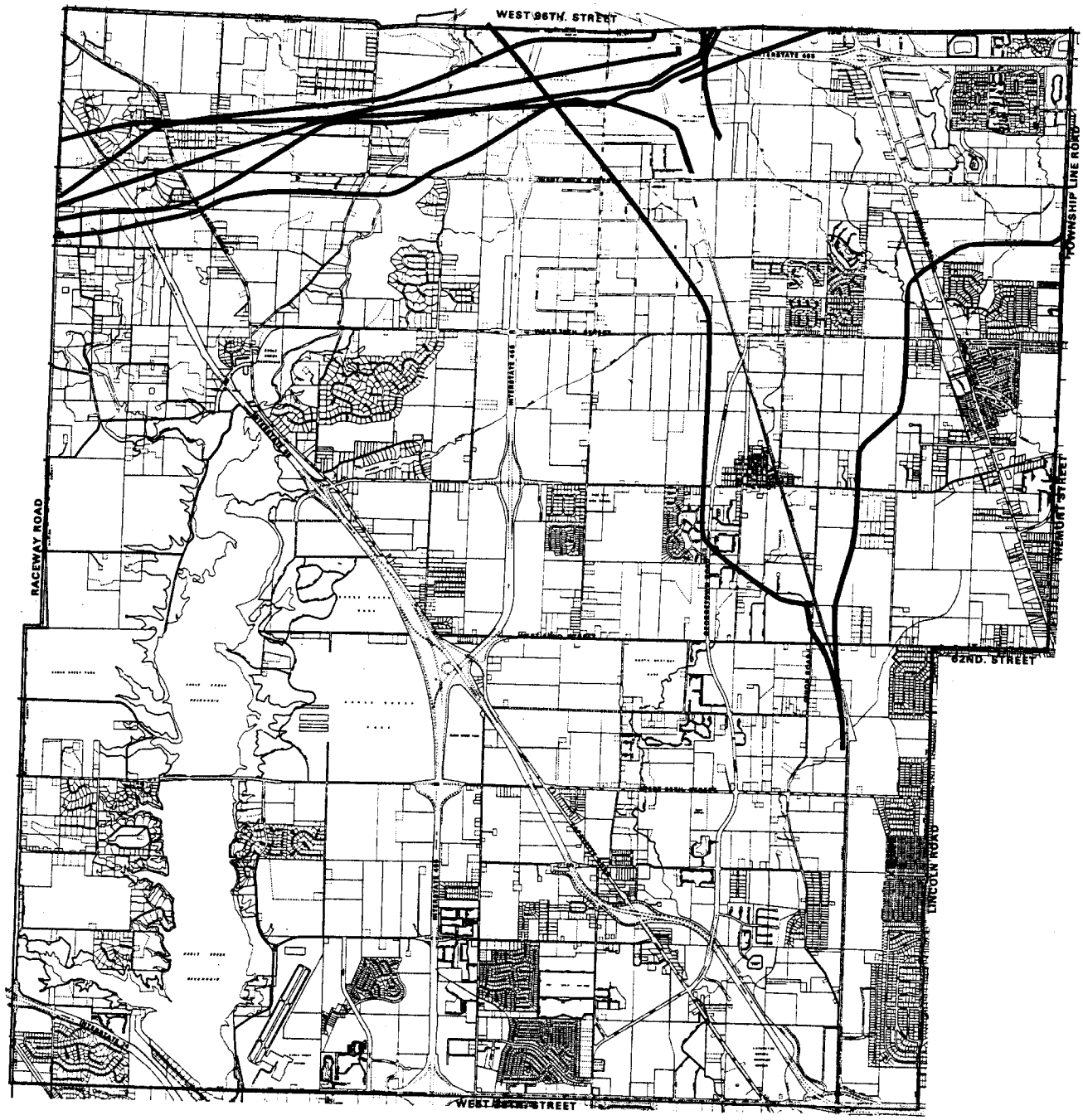
PIKE TOWNSHIP PLANNING STUDY

MAP 15

CURRENT GAS SERVICE

- Gas service areas

- Main gas lines



PIKE TOWNSHIP PLANNING STUDY

MAP 16

UNDERGROUND PIPELINES

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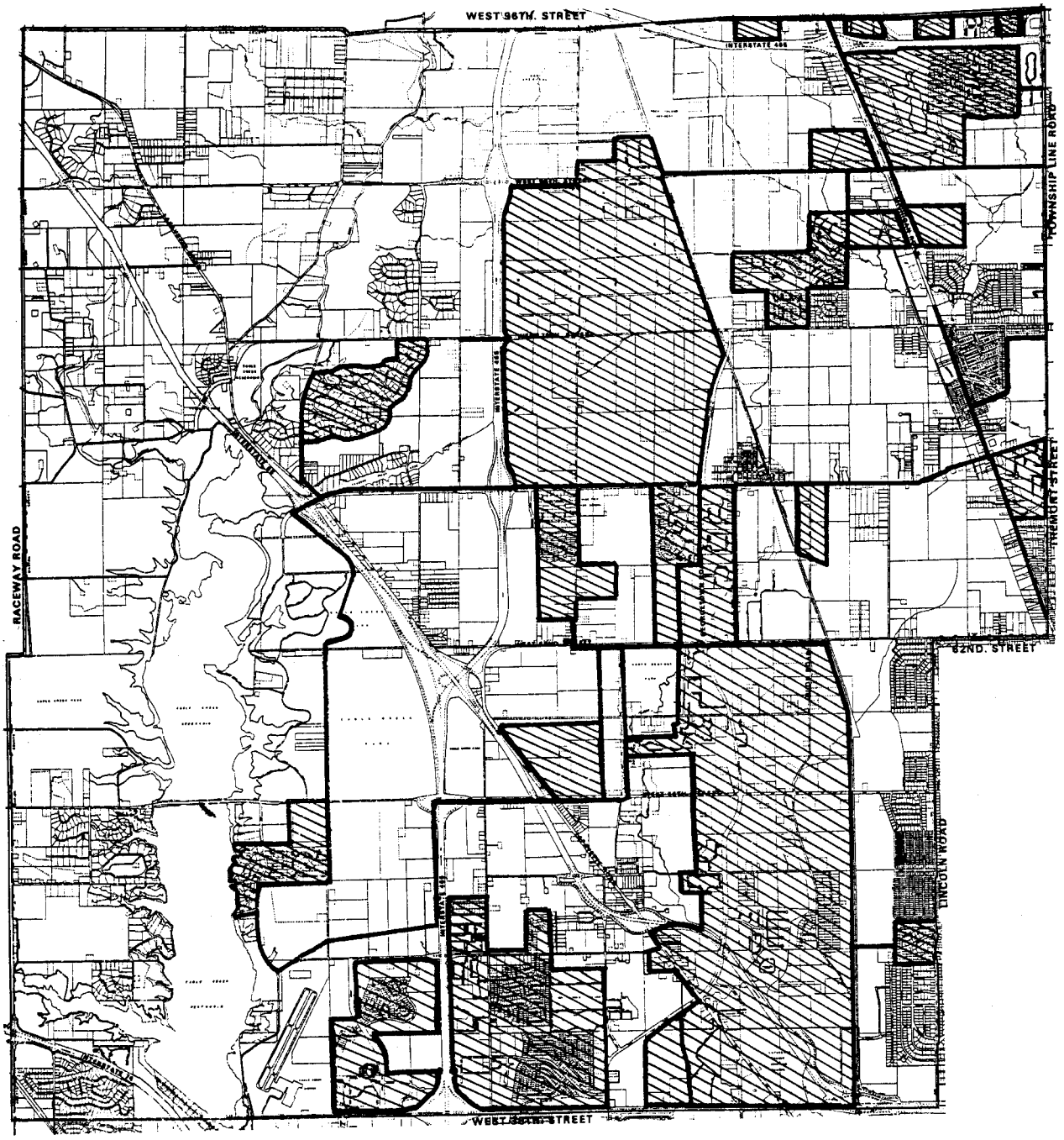

PIKE TOWNSHIP PLANNING STUDY

MAP 17

CURRENT WATER SERVICE

- Water service areas

- Water lines

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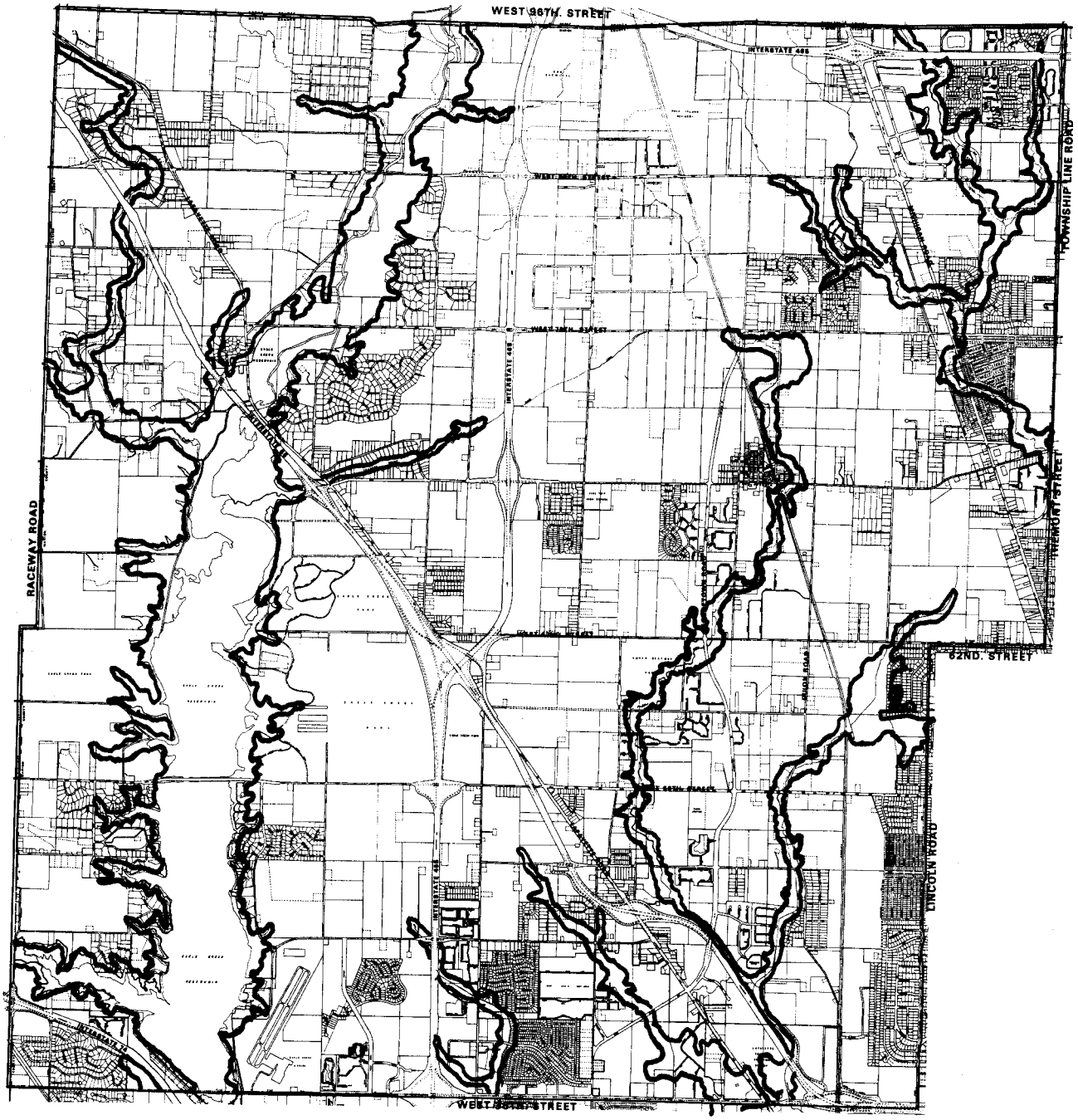

PIKE TOWNSHIP PLANNING STUDY

MAP 18

EXISTING FLOOD PLAINS

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CHAPTER 9
PROJECTIONS

PROJECTED CHARACTERISTICS OF PIKE TOWNSHIP

One of the primary purposes of this report is to provide a picture of Pike Township's future in terms of its residential and commericial characteristics. The dual nature of this section includes the estimation of population and employment within Pike Township by utilizing land use maps, housing starts and losses, and various U.S. census materials. From this base of information, projections of social and economic indicators were made to create an image of Pike Township as it would exist if it were fully developed as recommended by the 1984 Comprehensive Plan. These projections are also based on the assumption that existing land uses and structures remain intact.

The residential character of the Township will be represented by estimates of future housing stock, number of households and total population. The commercial nature of the Township will be illustrated by employment projections, total acreage containing retail, office and industrial buildings, and the square footage of building floor space devoted to those uses.

Methodology

A necessary first step in generating the following forecasts is to determine residential, commerical, industrial and "other" land use acreage in Pike Township through the examination of aerial photography. This information was transposed onto maps and the total amount of acreage for each classification was aggregated. The land use estimates for full-development were then generated by adding the recommended land use contained in the Comprehensive Plan for vacant property. A more detailed description of the methodology used for this report is available upon request.

The information concerning residential acreage was combined with the Division of Planning's Housing Monitoring System to determine an existing ratio of units to acres. This ratio was then employed to estimate the total number of single-family and multi-family housing units at full development. It was assumed that the density level for 1985 (in units per acre) would apply to future development as well. This forecast of housing units was then used as a method of predicting total population and the number of households that could possibly reside in Pike Township.

The future commerical and industrial characteristics of Pike were estimated by using the Pike Township Assessor's records concerning the square footage of retail, office and industrial buildings. This square footage information was combined with the existing land use data to calculate an average number of square feet of structure per acre for each of the three classifications of non-residential buildings. The projections are based on the assumption that 1985 density levels for each classification would be applicable at full-development. These projections of total building space were used as the basis for the employment estimates for full development.

Residential Characteristics of Pike

If the Township were to realize full development according to the 1984 Comprehensive Plan, it would have experienceed a quadrupling of housing units in the township. Between 1980 and 1985, total housing units are estimated to have increased from 11,347 units to 15,200 units, or a 34% increase. Using the methodology described above, the Comprehensive Plan would provide for a total of 55,900 units if Pike Township were to reach full development.

The housing stock would continue to favor multi-family development in character as the township neared full development. In 1985, total single family and multi-family units were estimated at 5,700 and 9,500 units respectively. The Comprehensive Plan would provide for a maximum of 16,200 single family units and 39,700 multi-family units in the Township. This would increase the proportion of multi-family units to 71% of total units as compared to 62% of total units in 1985. Conversely, the percentage of single family units to total units would drop from 38% in 1985 to 29% in the fully developed Pike Township.

An estimate of total households is generated by multiplying the number of housing units by the 1985 occupancy rate of 97.9% for single-family and 95.9% for multi-family units. According to the U.S. census, 9,901 households resided in Pike Township in 1980. The land use studies of Pike Township indicate that in 1985 an estimated 14,700 households existed in the township, an increase of 48%. At full development, 54,000 households would reside in Pike Township, representing an increase of 267% over the 1985 estimate.

Total population for the Township in a state of full development would be 123,000 persons (total households multiplied by an average of 2.2 persons per household). This represents a 283% increase over the 1985 estimate of 32,300 persons.

Commercial Characteritics of Pike

Through use of the land use study, the acreage of land devoted to commerical use was determined for 1985. This was compared to the projected acres that would be used for commerical or industrial purposes if Pike Township were fully developed according to the recommendations of the Comprehensive Plan. Future development would generally occur on land that is currently used for agricultural purposes. Since the Plan assumes that all land currently being used for agricultural purposes would be developed for non-agricultural uses.

Acreage used for retail purposes would increase from an estimated 831 acres in 1985 to 1811 acres at full development. This increase would be reflected in a 8,189,000 square feet addition to the total retail space of the Township. This would more than double the 1985 estimate of 6,922,000 square feet of retail building space.

Between 1985 and full development, another 230 acres would be added in commercial land that is used for office buildings, more than doubling the 1985 total of 200 acres. Similarly, the square footage of office space would be doubled by an increase of 2,331,000 square feet. At full development, and in accordance with the Comprehensive Plan, an estimated 4,348,000 square feet of floor space would be developed and used for office purposes.

The largest acreage difference between the 1985 estimated land use and the projected full development situation prescribed by the Comprehensive Plan occurs in the Industrial/Manufacturing category. A total of 2,411 acres would be added to the 1985 Industrial land use of 1,245 acres if the Township reaches full development. Total building space for industrial purposes would increase from 11,071,000 in 1985 to 32,512,000 square feet at full development.

The increase projection in commericial and industrial building space would also increase the total number of people employed in the Township. Employment densities for retail, office and industrial/manufacturing were assumed to be 1 employee per 500 sq. feet, 380 sq. feet, and 1200 sq. feet respectively. These totals were added to estimates of employment in miscellaneous public use categories (e.g. schools, parks, etc.) to derive total employment.

This growth in commericial/industrial square footage in Pike Township would increase the number of people employed in the township from an estimated 28,900 persons in 1985 to an estimated 68,900 at full development.

RATE OF DEVELOPMENT

The projected residential and commercial full development characteristics of Pike Township were based on the fixed number of acres and the recommendations contained in the adopted Land Use Plan. By applying densities and types of development historically found in Pike Township to the fixed number of total acres. A development mix was projected with a reasonable degree of certainty. Forecasting the following rates of development was done with somewhat less certainty.

Housing

To prepare a housing development rate, a combination of the 1960, 1970, and 1980 Census information with the 1985 Pike Township housing inventory previously estimated was used. From this process three housing development rates were prepared, as follows:

25 year rate (1960-1985).....525 units/year
15 year rate (1970-1985).....717 units/year
5 year rate (1980-1985).....768 units/year

By applying these different rates to the additional 40,788 units projected for full Pike Township residential development, total development years were forecast. Using the lowest (25 year) residential growth rate, it is projected that complete development would occur by the year 2063. Using the 5 year residential production rate it is estimated that full development would occur by the year 2038. The range of years for full residential development in Pike Township is projected at 53 to 78 years.

Commercial

The commercial rate of development was formulated by averaging the square feet of office and retail construction for the years 1980 through 1985. On the average, 975,724 square feet of commerical space were constructed annually. Dividing this average into the projected additional 10,519,462 square feet of commercial development the full development forecasts would take 11 years to be realized.

Industrial

The projected rate and years for full Pike Township industrial development used the same method as the commerical forecast. On the average, 736,403 square feet of industrial construction occured annually in Pike Township from 1980 to 1985. By dividing this average number into the projected 21,444,023 square feet of planned Pike Township industrial development, it is estimated that complete development would occur in 29 years.

Conclusion

The previous discussion does not imply that development will occur in the prescribed pattern of the Comprehensive Plan. Neighborhoods and townships are continually responding to new demands and changes in the area and to the economic conditions. The Comprehensive Plan provides an image of what has happened in the area and what that area would look like if current trends were to continue. As a policy guide, the Comprehensive Plan provides a means to measure growth trends and to investigate the possibility that changes need to be made in the assumptions about the future of the area.

FIGURE 9

Pike Township Projections